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Med
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Biological
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Serials /

GUY'S HOSPITAL REPORTS.

Second Series.

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VOL. V.



142893
616117.

LONDON:

SAMUEL HIGHLEY, 32, FLEET STREET.

MDCCC XLVII.

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31
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Ser. 2
v. 5

LONDON :

PRINTED BY WILLIAM WATTS, CROWN COURT, TEMPLE BAR.

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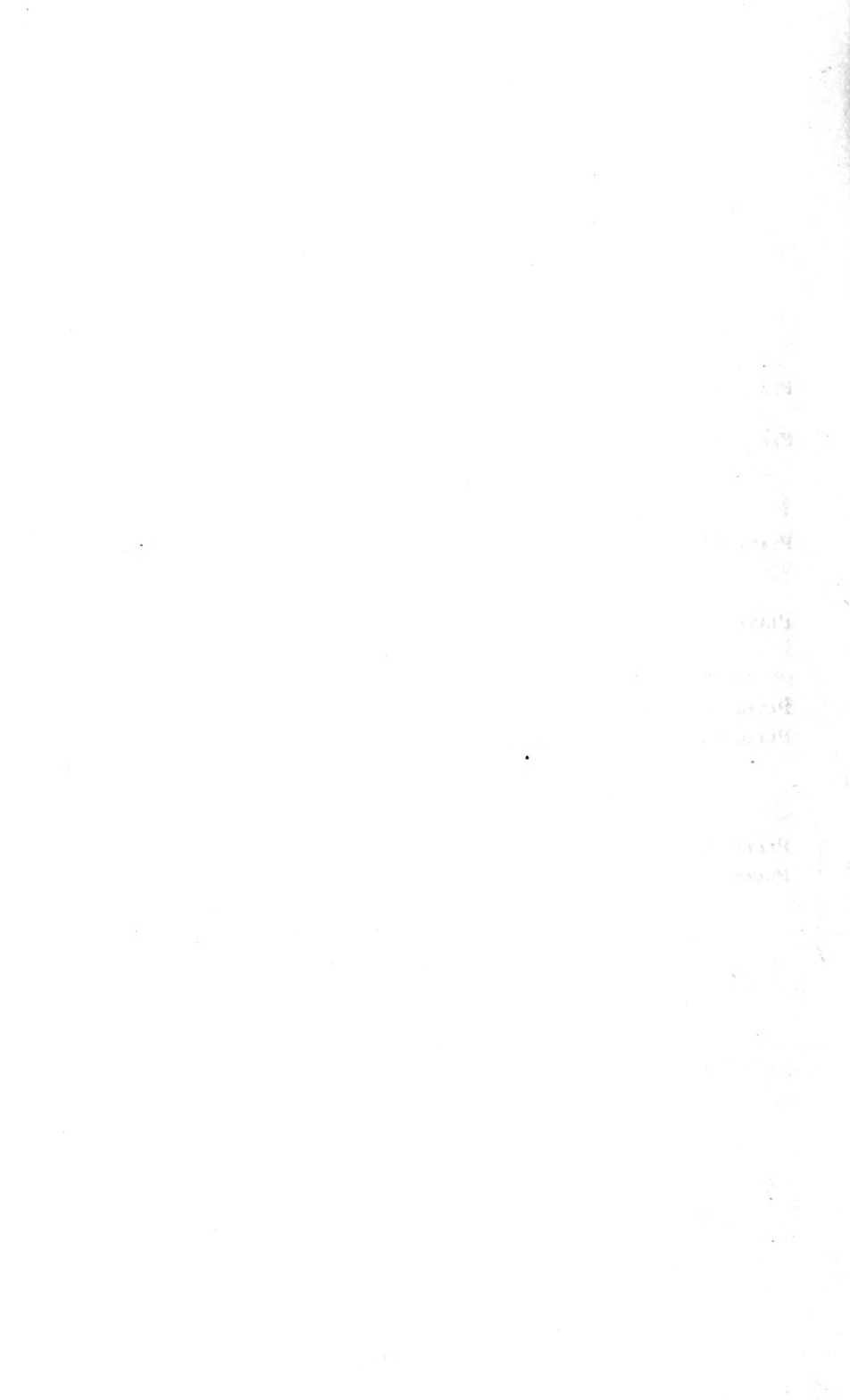
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ON SOME
DISORDERS OF THE NERVOUS SYSTEM
ASSOCIATED WITH
PREGNANCY AND PARTURITION.

READ BEFORE THE PHYSICAL SOCIETY OF GUY'S HOSPITAL,
MARCH 20, 1847,

BY JOHN C. W. LEVER, M.D.

It is not my intention to enter into the consideration of all the disorders or diseases which are occasionally seen associated with pregnancy, or attendant on parturition; for that would be to attempt too much, considering the limited period that is allotted to the reading of a paper, and to its after discussion. I therefore shall not enter upon the question of hysteria, in its protean forms; the subject of convulsions, occurring as they do during pregnancy, labour, or after parturition, I shall altogether omit; and lastly, mania, by general acceptance designated "puerperal," which shews itself during labour, whether such take place at term, or be premature, or be not developed until a certain period after delivery, will not pass under review.

The observations I have to offer will comprise certain disorders of the nervous system occurring chiefly during pregnancy; and the rest I shall leave until a future opportunity, when extended observation, maturer experience, and more leisure, will justify me in again offering myself to the notice of the Society.

It will be allowed, by those who have directed their attention to obstetrics, that the occurrence of pregnancy is marked, not only by the sympathy shewn in the general state of the body, but also by the altered condition of individual organs. The uterus, endowed with considerable nervous power and great vascular capacity, becoming the seat of a high degree of irritability, takes on new actions, some of which may be in excess; and owing to this irritability the whole body is prone to be affected or disturbed by its influence: for, in the language of a

former Lecturer at this School, "the law of sympathy is one of universal prevalence, and the uterus may be fairly considered the great centre of this influence in the female system."

The various organs of the body may be affected either mechanically, or by sympathetic irritation, or in both ways at one and the same time; and if these are but moderately affected in a pregnant female, it is found that she will be less liable to disease, and will ultimately fare better, than when she is altogether exempt from them. By attention to this two-fold irritation, obstetricians and medical jurists have derived much assistance in determining the existence of pregnancy in doubtful cases, and have drawn out for use a table of the "signs or symptoms of pregnancy." When moderate, they are not to be regarded as morbid, but merely the result of an altered state; but if in excess, they demand professional relief, and are termed, "diseases or disorders."

These "diseases or disorders" occur in some females as soon as conception takes place, and may last until the end of gestation, or may be relieved by the occurrence of quickening. In other cases, the first few months of pregnancy are passed over without suffering, whilst during the latter months the patients may be greatly distressed from mechanical or sympathetic irritations. In some, the disorder is most prominent when the result of conception is a female; in others, when the child proves to be a male: and not unfrequently we find a woman fix with accuracy the sex of the child, from a recollection of her former ailments.

Sometimes the irritation is entirely mechanical, and is shewn by the appearance of the external organs of generation, or the effects produced by the pressure of the gravid and enlarging uterus. In some, the chylopoietic viscera and their appendages are chiefly irritated, and may be indicated by simple tooth-ache, insalivation, fastidious taste, capricious appetite, nausea and vomiting, pyrosis, cardialgia, cramp, hæmatemesis, constipation, diarrhœa, jaundice, &c. In some instances these symptoms are mild, amenable to remedies, and interfere but little with the comfort of the patient; whereas in others, as in instances of insuperable vomiting, the induction of premature labour may be justifiable. In some females disease of the circulating and respiratory system supervenes at the period of conception, and

declines after the uterus has been emptied. In others, the urinary organs are mainly affected, not only by the mechanical pressure exerted upon them leading to incontinence or retention of urine, or dysuria, but in the nature of the fluid secreted, as in the instance recorded in "Ozann's Clinical Report for 1823," by Dr. Bennewitz; where a young woman was, in three successive pregnancies, affected with diabetes mellitus, which each time completely ceased on delivery, but again returned when she became pregnant; and as in a case of a lady related by me before the Members of the Hunterian Society, and whom I attended in consultation with Mr. Robert Browne, of Brixton. Lastly, the sympathetic irritation of pregnancy seems to develop itself by disorders of the nervous system and the senses; and to some of these I have now the opportunity of directing the attention of the Society.

CHOREA WITH PREGNANCY.

CASE 1.

Chorea, commencing early, and continuing to the end of Pregnancy.

MRS. — was married at the age of 19; was short in stature, of fair complexion, but with dark hair and eyes. She had enjoyed good health; her uterine functions had been performed with regularity and without pain; she was of a cheerful disposition; she had a liveliness of manner and a warm-heartedness which made her a general favourite. She was wooed and married within twelve months, and during that period suffered only once or twice from hysteric attacks, which seemed to be produced by some fancied or real impediment to the consummation of her marriage. As might have been expected, conception took place "ere the torch of Hymen was extinguished." For the first two months the symptoms of pregnancy presented no special peculiarity; they were chiefly mechanical, with gastric irritability: but at the commencement of the third month a perceptible alteration took place in this lady's manner: she became irritable and pettish; then convulsive movements were observed about the muscles of the face, and followed in a week by a tossing of the head to and fro. The right arm then became convulsed; then the left; and afterwards,

successively, the left and right leg. During the progress of her case, her mode of speech became altered; her sentences were short; she hesitated before giving a reply to a question, and when an answer was obtained, she seemed to shoot it out. The tongue was clean; her bowels acted with regularity, and the range of her pulse did not exceed the natural standard. She continued in the same condition until the close of gestation, when her memory seemed weakened, and fears were aroused lest she should become imbecile. Almost every plan of treatment was put into practice without avail: purgatives were given in true Hamiltonian doses; zinc was administered in large quantities; the various preparations of iron were tried one after the other; arsenic, digitalis, colchicum, nux vomica, bark, quinine, musk, ammonia, and, lastly, the shower-bath. Electricity was talked of, but not used, lest it might excite premature uterine action. The question of inducing premature labour was also entertained; and having been duly considered, was discarded, from the belief that there were no pressing symptoms to call for its performance, and that the symptoms entirely depended upon the gravid state of the uterus, and would depart at the termination of pregnancy. At the proper period labour commenced, and the patient was delivered of a living girl, after a tolerably easy and natural labour. When the uterine pains were present the convulsive movements ceased, but in the intervals they were most distressing. Delivery was succeeded by a long and quiet sleep. The patient was more quiet on waking; the symptoms gradually subsided; and at the end of the month she went to church, without a vestige of chorea. The supply of milk was copious, and in seven months she weaned her child.

This girl is now nearly seventeen years of age, tall, of slender figure, very quick, rather irritable in temper, and impatient of rebuke. At the age of twelve she suffered from a slight attack of chorea, induced by fright, which was quickly removed, and at the period of removal the catamenia made their appearance, and have since recurred with regularity.

CASE 2.

MRS. —, soon after weaning her first child, became again pregnant. Symptoms of chorea again manifested themselves,

but at an earlier period. They pursued a course very similar to that displayed in her previous pregnancy ; but, about the fourth month, an accidental fright induced an attack of hæmorrhage from the uterus : this was followed by its premature evacuation. Although the large quantity of blood she lost kept her in a state of weakness for a long time, yet as soon as the gravidity of the uterus was put an end to, the chorea declined, and the patient gradually recovered her strength. She has not since been pregnant, neither has she suffered from chorea. She has good health, her spirits are buoyant, she is full of life and merriment, and contributes most materially to the happiness of her friends. She has had occasional hysterical feelings, though slight in character, and evanescent.

CASE 3.

By the kind permission of Dr. Addison, I am enabled to give the particulars of a case which was under his care in the Clinical Ward at the commencement of the last session, and reported in the books by Mr. W. F. Cleveland.

HARRIET D——, a tall, and tolerably well-developed woman, with light hair, prominent blue eyes, and a wild, almost idiotic expression of countenance, married some months ago to a soldier, with whom she has since lived at Woolwich. She states that she has always enjoyed good health ; that, when a little girl, she received a wound on her head by part of a wall falling upon her, but from this she soon recovered ; that the catamenia appeared at the age of thirteen ; that she menstruated every three weeks ; that it is four months since menstruation ceased ; and as her abdomen had enlarged, she considered herself pregnant. She attributes her present attack to her having fretted a good deal because she had no friend near her, and her husband wanted the means to support her in the comfortable manner she had been accustomed to.

The following history, obtained from a friend who has nursed her since the present illness, may, on account of the patient's state of mind, be better relied on than the one she herself could furnish :—

Six weeks previous to admission, without any assignable cause, she was first observed to exhibit a want of controul over

the movements of the right leg and arm: this was not preceded by any fit. She soon complained of numbness, affecting the whole of the right side. A fortnight after this she began to shew signs of mental disorder, by talking incoherently, and not always returning a rational answer when interrogated. She has complained of great pain in her forehead, and has never been perfectly free from the state she is now in since the commencement of her disease, although it has had more or less of a paroxysmal character, and has generally been aggravated in the afternoon and towards night.

Her head is rather small; forehead narrow and receding. She is exceedingly restless in bed, turning and throwing herself about in all directions, sighing deeply every three or four minutes. The jactitation in the left side may be, in some measure, under controul, but on the right side it is quite the reverse, and the power is diminished: there is no wasting of the muscles: the sensation is impaired, although she maintains that, at times, it is normal. The pupils are rather contracted, but obedient to light; there is no complaint of pain in the head; pulse 72, regular and feeble; tongue clean, and moist; skin cool; slight cough; respiration easy; chest well formed, resonance normal; heart's action regular; no cardiac bruit; bowels confined. Ordered,

Ext. Col. Co. gr. xij. Hydr. Chlorid. gr. iij. fiant pilulæ iij.
statim sumendæ.

Beef tea and arrow-root, with an egg.

Nov. 20. She has passed a pretty good night, but moaned a good deal in her sleep: the bowels have been twice relieved; stools copious, dark, loose and offensive: has passed about two pints of urine, pale, acid, sp. gr. 1·013, unaffected by heat or nitric acid. Is pretty quiet this morning, except when making any attempt to move, when the jactitation is considerable: she has taken her diet pretty freely. Complains of slight pain in the lower part of the abdomen. Dr. Lever has examined her, and expressed his opinion that she is pregnant. Hair to be cut close.

Zinc. Sulph. gr. i. ter die.—Vini Xerici ℥iv. quotidie.

21. Has slept well, but complains of slight pain in the abdomen: there is rather more jactitation, and the spasm of

the facial muscles is more marked, although it has never been wanting since her admission. There is no mark of any previous wound of consequence on the head. Bowels not open since yesterday: urine natural in appearance. Enjoys her arrow-root and wine.

Hyd. Chlorid. g. v. hac nocte.

Ol. Ricini ℥ss. cras mane sumend.

Zinci Sulph. gr. iſs. ter die.

To have boiled mutton for dinner.

24. She was much excited yesterday by seeing the patient in the next bed in a fit of epilepsy; but the nurse thinks she is more quiet than on her admission. In her general health she improves; the appetite is pretty keen; bowels open; stools firm and unhealthy (clayey); urine thick. She sleeps well.

Rep. Pil. c Hyd. Chlorid.

Haust. Sennæ C. cras mane.

Zinci Sulph. gr. ij. t. d.

25. Zinci Sulph. gr. iij. t. d.

27. Grows more steady every day. Is now able to feed herself, which she could not do when admitted: gets up, and improves in her general health. Bowels freely open; stools of a more healthy appearance.

Dec. 1. Complains of being sick, and at times troubled with considerable flatulence. Last night the abdomen was considerably swollen, and resonant. Bowels pretty freely open; irritation much the same; in general aspect improved. She says there is more strength in the right side generally. Dr. Addison thought this morning that he occasionally heard a mitral bruit.

Zinci Sulph. gr. iv. t. d.; et Pergat.

5. Last night she took an aperient pill and draught, which has produced one copious, firm, light-coloured evacuation. She has been more irritable during the last day or two, and has had increased jactitation. The zinc produces nausea, but she has not vomited. Has kept her bed for the last day or two.

8. Much better; much more cheerful; more steady; bowels freely open. Fœtal heart not to be heard.—Pergat.

11. She is not so quiet: her general health is pretty good;

tongue clean; appetite good; bowels open. She sleeps well, but keeps her bed.

Porter O fs. daily.—Omit wine and egg.

As it appeared highly probable that the chorea was dependent upon, or intimately connected with pregnancy, that much benefit could not be expected from medical treatment, and that she herself was anxious to leave for change of air, she was presented on December 13.

By the kindness of Mr. Gant, Surgeon, of Woolwich, who has taken considerable pains to find this woman, I am enabled to give the Society a few additional particulars.

She left the hospital on December 13. In the following February the chorea left her, which, to use this gentleman's words, "she attributes entirely to the remedies administered, and expresses herself very grateful for the kind attention paid to her while in the hospital." She was confined in May 1846 of a boy, who died in the following August of diarrhœa. At the period of Mr. Gant's visiting her (Feb. 25) she believed she was pregnant, but there were no symptoms of chorea.

CASE 4.

M. A. D—, aged 24; admitted into Petersham Ward July 22, 1846. The commencement of the report was taken by Mr. R. Muriel; the close by Mr. G. H. Edwards, R.N.

She was a healthy-looking woman, of moderate stature, living in the Southwark Bridge Road. The catamenia appeared at the age of eighteen, were of a proper colour, unattended with pain, but small in quantity: they occurred for three months; then ceased for eighteen months; and re-appeared, with their due regularity, until she became pregnant. She married at the age of twenty, and two years and a half since she gave birth to a living child, her labour being quick and easy. Her health had been good, and she had suffered little, with the exception of occasional headache. At the time of her admission she was five months advanced in pregnancy, and had quickened about a fortnight or three weeks. For about the last three months she had found that she could not help dropping whatever she took into her hand. A month prior to her coming into the hospital, while walking, she was seized with a swimming in the head, and an unsteadiness of gait, which caused her to lay hold of

something near her for support : this feeling lasted for a minute or two, and then ceased. From that time until the period of her admission these sensations recurred several times in the course of the day. About 11 A.M. daily she suffered from nausea, but without vomiting.

On admission, there was considerable unsteadiness of gait ; the toes and fingers were in constant alternate flexion and extension ; she suffered from a dizziness of sight, but there was no pain in the head ; there was occasional numbness of the fingers, but not of the toes ; she slept well ; her tongue was clean ; thirst constant ; appetite small ; the pulse 78, and regular ; no pain in micturition, the urine of a light straw colour, sp. gr. 1·026, and unchanged by heat, or nitric acid ; bowels constipated, and for the last three weeks attended with a bearing-down pain on defæcation. Ordered,

Mist. Mag. c̄. Mag. Sulph. bis quotidie.

On July 24th, for the first time since her attack, her arms and legs were in a state of jactitation, which lasted the whole day, although she felt better. Her bowels were freely relieved, motions healthy ; and there was more desire for food.

Zinci Sulph. gr. i. Ext. Gentian. gr. iij. in formâ pil. ter die sumenda.

28. Much the same : zinc increased to two grains for the dose. On the night of the 29th her upper and lower extremities were in a state of jactitation. She moaned frequently, but, in the morning, was unconscious of it. She had been distressed in mind by reason of her husband's being thrown out of employment. On the following two days she suffered from headache, dizziness, and nausea, but there was no vomiting : the jactitation of the upper extremities less.

Aug. 1. Zinc increased to three grains for a dose.

3. There was still some nausea, but not so much pain in the head : her general health improved, but in other respects the same.

16. She had very much improved ; jactitation diminished ; her health better ; countenance more cheerful ; had not that appearance of doltishness which she presented on her admission. The zinc had been gradually increased, and she was then taking ten grains three times a day.

She continued to improve ; her limbs became much more

steady ; and she left the hospital on September 15th. Previously to her departure the urine was again examined : it was highly alkaline ; there were no traces of albumen ; and its sp. gr. was 1·031.

On March 12th, 1847, I saw this woman. I found that her symptoms continued until the period of her confinement, which took place at the full time. Her labour was natural : her child a female, and born alive. As soon as her labour-pains commenced the irregular movements ceased, and did not return after delivery. She recovered quickly, and says she is quite well ; but thinks there is a slight weakness of one side.

CASE 5.

For the particulars of the following case I am indebted to my excellent and indefatigable adjutant, Mr. John Hicks. She lies at No. 10 bed, Petersham Ward, and was admitted March 10th, 1847.

ANN E——, aged 20 : married four years. Has never followed any occupation. Has had the usual diseases of children. Had no difficulty in teething. Was an excitable and lively child ; but never had chorea before the present attack. When thirteen years old had a violent “laughing fit.” When about fifteen years old began to menstruate : the discharge has always been scanty, sometimes all but colourless, accompanied with much pain in the back, but regular as to time. Ever since the first appearance of the catamenia she has been subject to headache, sometimes so intense as to render her incapable of moving.

During her first pregnancy she suffered, before quickening, from frequent faintings, and after, from the most copious leucorrhœa, which continued till delivery, at the full period, three years ago. The labour was natural, but slow, without any flooding. Four days after, the lochia stopped entirely, and were succeeded by high excitement, violent headache, and pain in the abdomen : for these she was leeches, both on the abdomen and temples. Afterwards there was much debility, and for three weeks the child was not permitted to suck, the breasts being occasionally drawn. In about two months after confinement she was enabled to get out of doors, and she suckled the child for fifteen months.

She remained in good health for two years after this delivery : she then again fell pregnant, and soon after became debilitated. When about three months advanced she was frightened by some trivial circumstance, and miscarried, with a good deal of hæmorrhage at the time, followed shortly after by green discharge, and irritation about the vagina. In about two weeks she felt, in the night, a numbness, and slight twitching of the right arm, and, soon after, of the right leg, with contortions of the face. These symptoms have never since gone off. She, however, continued to improve, with the exception of a leucorrhœa, until five months ago, when she, a third time, became pregnant. Soon after, the contortions of the face and motions of the limbs became increased : faintings came on, with great nervousness and depression of spirits. About four weeks since she quickened. A week after that the left arm and leg became affected, and the jactitation of the arm has been so great as to require restraint : the grimaces have become more marked, while the right side has somewhat improved. She frequently sighs, and her look has become wild. The memory, latterly, has become impaired ; and when the jactitations are very violent her mind has appeared to suffer. Occasionally she has foamed at the mouth. Her motions have been dark, and at first pitchy ; latterly, more solid, but dark and very copious. She had taken iron for the last two weeks. The urine has been copious and high-coloured : she has had, for some time, bearing-down in the womb, and hæmorrhoids : her appetite has been very capricious. She has never had a blow on the head ; has never suffered from rheumatism ; but her sister died from spine disease produced by that complaint. No member of the family has had chorea.

Present symptoms and appearances.—She is a tall but slightly-built person, with narrow forehead, of sanguine temperament, brown hair, light eyes, with rolling of the globes, and a wild expression of countenance ; the cheeks are highly coloured ; the skin is moist and warm ; the tongue large, moist, and clean ; there is slight thirst ; she has considerable difficulty in articulation, and a little in deglutition ; the appetite is good ; the bowels open once a-day ; urine copious, high coloured, sp. gr. 1·025, with lithate deposit, otherwise natural. She feels a bearing-down pain in the uterus, with irritation about the

vagina. There is a dark areola round the nipple, but no milk: the lungs are healthy: there is no cough, but the respiratory efforts are irregular: a soft humming bruit is heard with the systole of the heart over the greater part of the chest; it is very variable in intensity, sometimes loudest at the apex, then at the base, sometimes all over the heart, and is much increased on excitement: the second sound is distinct, but harsh; the impulse is regular: pulse 90, full, and not weak.

The abdomen is of the size of about a five-months' pregnancy: there is slight pain on the left side. The movements of the abdominal muscles render vain the attempt to detect any uterine or foetal sounds. She has very little headache. At present her mind appears clear, although there is a slowness in answering, which seems owing to her inability to articulate. The pupils are large; she has almost constantly contortion of the face, jactitations of extremities, but most of the left arm: there are writhings of the body, but these motions are capable of being slightly controlled by a strong effort. Sometimes a pain shoots down the left leg: she has aching pain in the loins; the spine gives no pain on percussion, nor is there any thing abnormal about it.*

In some cases we find paralysis of one or more organs of the body, or of the extremities, developing itself during pregnancy, and this may occur at any period.

CASE 6.

Paralysis with Pregnancy.

Mrs. A——, a dark-complexioned lady, with black hair, consulted me about six years since. She was 26 years of age; had given birth to two children, and had weaned her last child for upwards of twelve months: she had weaned them from the excessive debility occasioned by the long-continued lactation. For many years she had been subject to weighty pains in her head, and confusion of ideas. She had never suffered from fits,

* This patient remained in the hospital about five weeks, and before leaving was able to walk about the ward, and to feed herself without difficulty. She was confined in the month of June, after a natural labour, of a living child, when all irregular movement ceased. The medicine given consisted in occasional purgatives and the sulphate of zinc, increasing the dose until five grains were exhibited three times a-day.

and had received neither blow nor fall. Her face was pallid; lips pale; pupils of the eyes large; head rather square; forehead low; the posterior part of the head large.

A week or two previous to her consulting me she felt a numbness in her right arm, with a diminution of its power: she could not feel so distinctly with that extremity, neither could she pick up a pin if placed upon the table. The mouth is drawn slightly to the right side, and there is a feeling of occasional tingling, and sometimes numbness, in the left thigh, leg, and foot. Her pulse small, 84; her bowels inclined to be constipated; her appetite capricious; and her temper irritable. The urine is of natural colour, and secreted in full quantity. Purgatives, with mercurials, were at first prescribed, to increase and improve the alvine discharges, which were at fault; and afterwards a pill composed of one grain of sulphate of iron, one grain of quinine, one of capsicum, one of dilute aloes pill, and one of extr. chamomile, was given three times a-day. These she continued with great benefit: her appearance improved; the mouth assumed its regularity; the numbness diminished, and she had more power with her right hand; but she did not lose all the symptoms until her confinement, seven months after I first saw her. Her labour was easy; she went on well for four months, menstruating every month during lactation; and the symptoms again gradually stole upon her. Weaning was ordered; the former medicine was re-assumed; and both she and her husband were strongly advised to live, for a time, a life of celibacy. This was observed for a period, and the lady acquired her previous good looks; but when the injunction was removed, she quickly conceived, and, within a month, shewed all those symptoms which were submitted to my notice on my first introduction. The same means were resorted to, and with similar success. Suffice it to say, that I have now attended this lady in four pregnancies, and with four children, she having borne six; that the symptoms make their appearance very soon after pregnancy takes place; that they become modified by treatment, but are never removed until after delivery; that the period of their cessation has seemed to depend upon the nature and the amount of blood lost during the labour; that for a few months all the symptoms disappear; but when the constitutional powers become weak-

ened by lactation, then they gradually steal on, and are removed by the measures above detailed; taking care, at the same time, that weaning forms an essential part of the treatment. Fear and grief have had the effect of seriously increasing the symptoms in the course of a very brief period.

This lady's father is above 60 years of age, and has suffered from two attacks of paralysis.

CASE 7.

S. M——, aged 38: married nine years. Had twice miscarried; and was eight months advanced in gestation with her seventh child. She had never, since her marriage, or rather her first conception, been free either from pregnancy or lactation; and, in many cases, had suckled one child whilst pregnant with another. Her catamenia had returned with regularity after each confinement, although she continued to nurse. She was a pale, delicate woman, looking at least ten years beyond her age; anæmic; and, although surrounded by comforts, yet she was dispirited and peevish: took but little nourishment, solid or fluid; but had recourse to frequently-repeated doses of various stimuli during the day, as, sal-volatile, red lavender, brandy, &c. On Thursday, Sept. 17th, whilst engaged in some fancy needle-work, she felt a tingling sensation in the palm of her right hand and fingers, which rapidly ran up the extremity to the shoulder and axilla, when she found herself unable to hold or feel her needle: the fingers were slightly flexed on the hand, the hand on the fore-arm, and the fore-arm on the humerus. Her medical attendant at first prescribed purgatives to relieve the bowels, which were loaded: these had brought away copious evacuations, of a highly-offensive and dark character. On Sept. 22d, I saw her. The right extremity was in the condition above described: the sensation of the limb appeared little, if at all, deranged; but she complained of a sensation of heat throughout its whole extent: her countenance was pale; there was no pain or heat in the head; her bowels had been freely opened on the day of my visit; her pulse was small, feeble, and 96.

I advised nutritious diet; abstinence from the repeated doses of stimuli; 3oz. of sherry wine to be taken in two parts during the day; and the following medicine:—

Zinci Sulph. gr. i. Quin. Disulph. gr. i. Pulv. Rhei gr. ij.
Pulv. Valerianæ gr. xij. in form. pulv. ter die sum.

The dose of the zinc to be increased by one grain every third day.

She continued the medicine until she took five-grain doses of zinc, with decided improvement; but she did not recover the use of her arms until after her confinement, which occurred during the last week of October. Her labour was natural; and the utmost precaution was taken to prevent her losing much blood.

CASE 8.

The following case is interesting, from its being complicated with hysteria. In many respects it resembles a case that I saw in consultation with Mr. Waterworth; a case of a married lady, highly hysterical, but not pregnant.

M. S——, aged 26 years and a half. Before marriage she was subject to hysteria and irregular menstruation. After marriage she miscarried three times; on which occasions she lost much blood, and subsequently suffered from debility. At length her health improved under a course of mineral tonics, the employment of the shower-bath, and a protracted residence at the sea-side. During the time she was under this plan of treatment she strictly observed a life of celibacy.

In due time the sexual restraint was removed, and she soon became pregnant. She went to the full period; had rather a lingering labour; recovered well; and nursed her child for nine months; and then reluctantly weaned it, by the advice of her attendant. She was unwell; again became pregnant; again carried her child to the full term; had a safe delivery, but a very short supply of milk; and was frequently seized with choking, and various hysterical symptoms. She was pale, feeble, and languid; and at length consented to wean her child, and to go into the country. In an unfortunate moment her husband was induced to visit her; and although he slept with her but one night, she again became pregnant. She remained in the country about three months, and then returned to town, better than when she left, but not so well as her attendant expected, as he, on his first visit, had not been

made acquainted with her condition. When I saw her she was five months advanced. I heard that, about a week previous to my visit, she was suddenly seized with the loss of power over her upper extremities, as well as loss of voice. The bowels had been freely acted on by purgatives; and medicines of an anti-hysteric or anti-spasmodic character had been prescribed. At the period of my visit she was talking rapidly, exhibiting much skill as an improvisatrice. Her head was free from heat; her pupils were irregular, at one time dilated, and in a moment contracting without the stimulus of light: the eyeballs at one time were turned to the right side, and in a moment rolled over and fixed to the left. When desired to put out the tongue, she obeyed: it protruded in a straight line, and was rather furred: respiration was quiet, and the sounds natural; the action of the heart was tumultuous, and its sounds might be heard over every part of her chest; her pulse was 130, small, and jerking; the upper extremities were rigid and extended; her hands were in a state of forcible supination, the fingers half flexed, and the thumbs drawn over and firmly applied to the little fingers; the lower extremities were natural, and when the soles of the feet were titillated, the legs were drawn up.

It would be wearisome and needless for me to go through the remainder of this case. The treatment consisted in obtaining daily evacuations from the bowels, which were obstinate; and in improving the condition of the evacuations, which were of the colour of clay. The *sp. æth. sulph. c.* with valerian and hyoscyamus were first given, and afterwards the valerianate of zinc. With these the symptoms mended, and she was removed into the country; but they did not take their departure until delivery took place. She then recovered rapidly, and has not since been pregnant.

In some cases we do not find the symptoms of paralysis until after delivery; when it may come on, even though the labour be perfectly natural, and where there has not been any undue or long-continued pressure made by the child's head in the pelvis.

CASE 9.

Is that of Eliza H——, who was in Guy's Hospital several

times (I believe three) under the care of my late colleague, Dr. Ashwell, and once when Mr. James Oldham filled the office of clinical clerk. Immediately after her sixth labour, which was perfectly natural, she felt a great numbness in her lower extremities, as well as weakness; but from these she gradually recovered. During her seventh pregnancy, about the third month, her lower extremities gradually became partially paralyzed; and this time she was unable to stand or walk, and was compelled to keep her bed. After her confinement she was carried into the hospital, and placed under Dr. Ashwell's care, when she perfectly recovered. On going out she became pregnant with her eighth child, and paralysis did not come on until after labour.

The paralysis is sometimes confined to the nerves of special sensation, as in the two following cases.

CASE 10.

Partial Amaurosis with Pregnancy.

MRS. T—, aged 31; married nearly seven years; the mother of four children, all of whom she had nursed: her labours had been tolerably easy, and her supply of milk abundant. Menstruation had regularly continued during the period of suckling, and in more than one instance she continued to nurse her child when pregnant. She was a delicate-looking female, and complained of feeling tired and exhausted; was the subject of a very copious leucorrhœal discharge; and was pregnant with the fifth child. Soon after quickening, whilst engaged in some plain needle-work, she suddenly felt a peculiar sensation in the eyeballs, and found, on opening the lids, that she could merely see the outline of objects, their centre being totally dark. This continued, with some slight remission, up to the period of her confinement: the remission seemed to depend upon the state of her system, the condition of her stomach, and the appearance of the day, for she saw better in cloudy or hazy weather than in sunshine. Her eyes were dark; the pupils large, and contracted (although sluggishly) upon the stimulus of light; the eyeballs seemed to have, in a measure, lost their mobility, and to be inordinately fixed; the eyelids altogether, or nearly, covered with the globes, for if they were not protected, she complained of a sensation of

dryness and smarting. She was pale and excessively anxious respecting the result. Her pulse was small, quick, and irritable; her tongue large, flabby, and indented at the sides; the bowels tolerably regular, the evacuations natural; the urine was passed in full, sometimes large quantities, and was generally pale.

Quinine, with ammonia, beer, wine, &c., were prescribed; but with slight alteration of her symptoms. She went on to the full term of gestation, and was delivered of a living child after an easy labour. Every precaution was taken to prevent the loss of blood. Nursing was prohibited. Within a week of her confinement there was decided improvement; she resumed her quinine and ammonia; and at the end of five weeks went into the country, where she staid about three months. On her return she could see perfectly, and was better than she had ever been since her first delivery.

I might multiply cases of this kind, were it necessary. Suffice it to say, that I have seen but one case in which the amaurosis was permanent. In one female it has taken place in two successive pregnancies.

CASE 11.

Deafness with Pregnancy.

MRS. S—, aged 23, had occasionally been under my care, previously to her marriage, for some dyspeptic ailments of a trivial character. Her health was tolerably good, although she was by no means strong. She was readily excited; of irritable temper; menstruated regularly, the usual duration of the catamenia being seven or eight days. After a courtship of four years, which had been occasionally interrupted by quarrels, depending, I believe, upon this lady's jealous disposition, she married, and soon proved pregnant. Between three and four months after her marriage her friends noticed that her hearing was not so acute as before, and it was evident that, week by week, it was gradually becoming more obtuse. Various household remedies were employed without success, and at last I was consulted. The most careful investigation failed to detect any imperfections in the external organs of hearing: the tonsils were a little enlarged, but not to a greater extent than they had been for years. She was dis-

pirited and pale ; her tongue, when protruded, was tremulous, flabby, and indented ; her pulse small and feeble ; her appetite tolerably good ; her bowels regular ; her nights restless ; and the irritability of her temper had increased.

Quinine and ammonia were given, and at first with decided improvement. After a time these were changed for iron, which she tried in various forms. Arsenic and other mineral tonics were prescribed, but without success. The deafness continued to increase, and, with the deafness, the temper became worse ; for as she could not hear with distinctness any conversation that was going on in the room, she was seized with the impression that it always had reference to herself. Such was her condition when labour came upon her at the proper period. Her child was expelled alive, after eight hours' vigorous uterine efforts. The day after her delivery she said her hearing was better, and it continued gradually to improve, so that by the time she went to church she could hear as well as ever ; and in the same proportion was the alteration in her temper and disposition. For five or six months she continued well, but then her strength began to fail, and it was evident that nursing her child was exhausting her. She suffered from palpitation of the heart, lowness of spirits, pain under her left nipple, weight at the top of the head, especially of a morning ; and her deafness was gradually re-appearing.

Guided by the counsel of a friend, she sought the opinion of a professional gentleman, who, after instituting a full and searching investigation of her physiognomy, and taking great pains to impress her with a due and proper estimate of his talents and experience, proceeded to examine, by means of some instruments, both the ears and the throat. He advised the removal of the tonsils ; said there was a morbid condition of the mucous membrane of the throat, nose, and ears ; which he would endeavour to remove by washing and gargling the throat through the nose. The patient became alarmed, and the surgeon found he had said rather too much ; for the lady decamped, forgetting, in her excitement, the customary and expected *douceur*. On the following morning she paid me a visit, and was still much excited by the interview of the previous day. I endeavoured to allay her fears, by telling her that no operation was called for ; by directing her to wean her

child; putting her on a course of tonics; and recommending change of air at the sea-side, as early as weaning was accomplished. This plan of treatment was carried out to the letter, and the lady recovered, with her tonsils *in situ*.

CASE 12.

ON March 3d, 1845, with Mr. Hankins, I saw Mrs. P.—, 18 years and a half old, and married seven months. She had not been regular since her marriage. She was of a delicate constitution. Had twice, in the eighteen months previous to her marriage, suffered from menstrual irregularity, which was soon relieved by medical treatment. She suffered but little previously to quickening, nausea and sickness being the chief ailments. Some family disputes taking place, she suddenly swooned, and continued for some time insensible. When restored, it was found that she was hemiplegic on the right side, as far as the upper part of the abdomen: no pinching, tickling, or any other irritation, caused any movement in the right lower extremity. On the following day she swooned again, and this was followed by an apparent loss of motion and sensation in the right upper extremity. Matters continued the same for three days, when the limbs suddenly regained their usual power. Speechlessness now ensued, which also lasted for three days, and was followed by loss of power in the right lower extremity, as far as the knee. Such was the character of the symptoms previously to my visit. Naturally a mild, sensitive young woman, about two o'clock in the day she became morose, self-willed, contradictory, and obstinate, refusing to answer questions, or if she ventured an answer, it was generally in the negative monosyllable, "No," or the equally emphatic "I shan't." Her appetite was capricious, herrings and ale being her favourite diet. This strange alteration of disposition and habits occurred daily about the hour of two P.M., and was preceded by a sensation of giddiness in the head: it continued till night. She then went to sleep, and about five o'clock A.M. awoke, complaining of severe and throbbing pain in the back part of the head. When visited by me she was in bed, free from flushing or inordinate heat, the eyebrows were contracted; the pupils natural, and obedient to light. She would not permit me to see her tongue. The mobility of the upper and lower extremities

was perfect; the surface of the body warm and bedewed with moisture; abdomen free from tympanitic distention; fœtal movements turbulent; mammæ plump and full, and from the nipples there was dripping a copious lacteal secretion; the head was free from inordinate heat, but the temperature of its posterior part was higher than that of the anterior; the hair was long and thick. Her bowels were freely opened by purgatives. The treatment by Mr. Hankins had consisted in local depletion, counter-irritation at the nape of the neck, the administration of sedatives and antispasmodics.

I was consulted more especially as to the propriety of inducing premature labour; and in reply I advised, that as there appeared at that time to be no danger to life, as the attacks were periodic, and as there was no apparent probability of ultimate mental aberration, premature labour should not be induced; at the same time I expressed my belief that matters would continue much the same during the persistence of pregnancy. I further advised, that if it should hereafter be deemed necessary prematurely to empty the uterus, it should be by opening the membranous bag, and not by the administration of ergot.

2dly, I advised that the patient's head should be shaved, especially the posterior part.

3dly, That all stimuli should be avoided, more particularly sexual intercourse.

4thly, That the utmost quietude should be enjoined; perfect freedom from the visits of strangers, she having the night before mistaken a friend of her father's for the "headsman."

Lastly, The following mixture was prescribed,

Mag. Sulph. ʒiij. Pulv. Val. ʒfs. Tinct. Lupuli ʒifs.
Syr. Aur ʒij. Inf. Calumbæ q. s. m. fiat mist. ʒvi.
sumat. ter partem ter quotidie.

By the kindness of Mr. Hankins I am enabled to supply the remainder of this case. The symptoms improved, but continued until the beginning of April, when she was delivered of a small, living, but apparently healthy boy. The labour was perfectly natural: no convulsive symptoms occurred, neither was there any thing to excite the slightest uneasiness. She continued doing well; but after a few weeks appeared unequal to

nurse her infant, which was accordingly weaned when between three and four months old. She then suffered from various anomalous symptoms, irregular menstruation, occasional hæmoptysis, &c. The child died at the age of six months, from muco-enteritis.

I have found on inquiry that this young woman has been a second time confined, and at the eighth month. Once during her pregnancy she suffered from speechlessness for a fortnight, induced by some domestic feud. Her labour was natural. On attempting to rise, a fortnight after delivery, she found she had lost all her power over her lower extremities, but this she has gradually regained, and about ten days since walked out for the first time to my house, a distance of about 150 yards.

CASE 13.

ABOUT eighteen months since my opinion was asked upon the following case.

A lady, 20 years of age, of lively disposition, who had always resided in the country, married, and came to London. She married respectably, and had every thing about her to make her comfortable, and promote her happiness. Menstruation was due a fortnight after marriage, but did not appear; but at the time it should have taken place her disposition and manners underwent a material change. She had previously been remarkable for buoyancy of spirits; was the life, not only of the household, but of the neighbourhood, a merry-hearted, rollicking girl: she had anticipated with the highest pleasure her union with her husband, he being her first and only love. Two menstrual periods had passed over when I visited her, and the questions submitted to me were, first, Was she pregnant? Secondly, Did the alteration of manner and habits depend upon the gravid state of the uterus? And, lastly, If pregnancy existed, would it be right to empty the womb? The best examination I could make at this early stage, and conducted both externally and internally, enabled me to give a pretty decided opinion that she was pregnant. I further did not hesitate to express my conviction, that the alteration which had taken place in her appearance, habits, and manners, arose from pregnancy, and would continue so long as pregnancy

persisted ; in which opinion I was confirmed by cases that had previously passed under my notice, and by some that had been described by others. The change that had taken place in this girl was remarkable. From being light-hearted and gay, she sat wherever she was placed, neither turning her head nor her eyes to one side or the other : she was a living automaton : her movements were automatic, there was life, it was true, but there appeared to be no mind : pale and ex-sanguine, her chiselled face seemed as if cut in alabaster.

The third question I answered in the negative, for there then appeared to be no danger to life ; and therefore, although her condition was distressing, and calculated to arouse the deepest sympathy, yet I did not feel myself warranted in either recommending, or in performing, an operation which would prematurely empty the uterus, and destroy the ovum. I satisfied myself by advising that she should be entrusted to the custody of some active, able, and lively attendant ; that the bowels should be daily attended to ; and that she should be made to take regular exercise. She continued in the same state until after delivery. Her labour was lingering, and terminated in the birth of a still-born child. Her animal spirits gradually returned ; her natural disposition and liveliness reappeared ; and when I last heard of her she was reported as well as ever.

CASE 14.

THE last case, to which I shall briefly direct the attention of the Society, is one which deeply affected me at the time I was attending it. The patient was a young lady, unmarried, and about four months advanced in pregnancy. It appeared that in an evil moment her affection was stronger than her prudence :

“ She was beautiful : therefore to be wooed.

A woman : therefore to be won.”

She submitted herself to the evil designs of her accepted lover, and pregnancy was the result. He, like many of his sex, spurned from him her whom he had ravished ; and upbraided her with being in that condition which he himself had occasioned. The poor girl besought, entreated, and implored him to marry her. He refused. In her agony, she depicted the

misery in store for *her*; the shame that would come upon her *child*. He was resolute, hardened, and, to rid himself of the annoyance, left the country. The consequences that followed might have been expected; and I was requested to see this young lady, of whom I had some slight previous knowledge. I found her in her chamber, pale and wan :

“She had let concealment, like a worm i’ the bud,
Feed on her damask cheek : she pined in thought ;
And, with a green and yellow melancholy,
She sat like patience on a monument,
Smiling at grief.”

At times she would fancy herself one of the vestal virgins, and imagine she was about to undergo the sentence of being buried alive. Suddenly she would give out, in a voice of surprising power and clearness, the well-known recitative, “Lead me to the rack, or to the flames, &c.,” and this would she follow by those touching lines, commencing, “Angels ever bright and fair.”

In this state of mind she continued until her labour commenced, and during its progress there seemed to be but little alteration; but at its termination, and immediately the child cried, she called out, “What is that? Is that my child?” burst into a flood of tears, and from that moment was perfectly sane. She rapidly recovered; her child was put out to nurse; she removed from her temporary retirement, and again joined her family circle.

The time I have occupied in the detail of these cases prevents my entering into the various questions connected with their pathology, treatment, &c. With respect to the cases of chorea with pregnancy, I am of opinion that the spinal system of nerves is affected secondarily through the ganglionic. The cases of paralysis, whether of the cerebral or spinal nerves, would appear to be produced by a cause that is temporary; in common parlance, it is functional paralysis; but the indiscriminate use of this term has too often given rise to much confusion. In the language of a living writer—

“The state of an organ necessary to the correct execution of its functions is a living, not a dead condition: it requires, not merely a certain organization, as we find it after death,

but a supply of healthy blood in a certain quantity; a natural state of nervous influence and sympathy; and perhaps other circumstances not clearly understood." If all these conditions are combined, can we consider it possible that the function should be disordered? If one or more should be altered, or wanting, can the disease be properly regarded as simply functional? We oftentimes apply the term "functional," when our unassisted senses fail to detect any changes in structure or consistence.

Are these temporary disorders, which are developed during pregnancy, liable to become permanent in after-life? Neither my age nor my experience warrants me in giving an opinion. This I must therefore leave to the more advanced members of the Society.

In conclusion, I venture to submit the following propositions:—

1. That pregnancy is occasionally associated with chorea, or convulsive movements; with paralysis of various parts of the body, of the extremities, and of the nerves of special sense; and with mania.

2. That the varying symptoms of such complications may be produced at any period of pregnancy; but when produced, although modified by treatment, are rarely removed during the existence of gravidity.

3. That the patients in whom these complications exist are women of a highly-nervous temperament, of great irritability, or whose constitutional powers have been reduced by some long-continued, but serious cause of exhaustion.

4. That in the treatment of such cases heroic measures are not to be employed: that the curative means consist in improving the secretions, keeping the bowels free, and administering those medicines, and employing that diet, which will increase the tone and energy of the nervous system.

Lastly, That although, in most instances, the symptoms will continue so long as pregnancy exists, yet in the majority of cases we are not justified in inducing a premature evacuation of the uterine contents.

OPHTHALMIC CASES.

BY JOHN F. FRANCE.

I AM not unaware how much the value of cases in surgery is lessened by their appearing as isolated facts. As such, they must in themselves be insufficient grounds for safe generalization; and seldom can the practical inferences they prompt rise from the suggestive to the didactic. Yet feeling convinced that the patient record of individual cases of rare occurrence can alone enable subsequent observers to compile aggregates, from the collation of which sound general inductions, whether of physiological or therapeutical bearing, may be formed, I venture to present the following miscellaneous cases, with some brief comments, to the notice of the Profession.

The first case subjoined exemplifies an occasional effect of violence to the globe of the eye, but exhibits some features of sufficient rarity to invest it with considerable interest.

CASE 1.

JOHN A——, aged 37, a healthy man, and by occupation a sailor, was admitted into the Eye Infirmary on July 1, 1846. On the 12th of the preceding month he had struck his right eye with a rope's end, and subsequently experienced much pain; but he had not found vision impaired until a week after the accident, when it rapidly failed, and by June 28 he had completely lost the sight of the right eye, so as barely to discern light from darkness. Upon admission, he was subjected to the action of mercury, (depletion by cupping having been previously effected,) and daily improvement in visual power became manifest under the use of this remedy.

On the 1st of July the affected eye exhibited the following singular aspect:—The conjunctiva was slightly injected; the cornea was clear, though a loss of brilliancy was apparent over the pupil and iris. At its upper and lateral margins the latter, for a short space, stretched in the natural manner from the ciliary ligament, but then became abruptly concave anteriorly;

the membrane not leaving, at its inferior margin, any corresponding interval plane. Round where this sudden deviation of the iris commenced, a peculiar resplendence, of curvilinear form, was seen in certain points of view, reminding the observer of the reflection produced by an edge of glass beneath water upon which light is streaming. The pupil was pear-shaped, with the long diameter perpendicular, and the inferior extremity angular: it resisted the action of belladonna.

Upon catoptrical examination of the eye, neither of the deeper images of a candle could be perceived.

Besides loss of vision, the patient complained of much pain at the forehead and temple on the right side, and sensations described by him as of pricking and stabbing in the affected eye.

It was evident that the lens, dislocated from its natural position, but retaining its transparency, was occupying the anterior chamber, and, in consequence of the deficient depth of the latter, was thrusting back the iris, and occasioning its abnormal concavity; while the transverse and perpendicular diameters of the chamber exceeding those of the virtually foreign body by about a fifth, a corresponding extent of the iris was left bare, maintaining its ordinary position and form, as nearly as might be, by aid of the vitreous humour supporting it from behind. The elongation of the pupil inferiorly seemed to arise from the persistence of some slender thread of connection between the crystalline and the hyaloid membrane, which, traversing the pupil, drew it mechanically into the form noticed above.

No operative interference being judged expedient, the lens continued to retain its new position. Neither its transparency nor bulk was materially, if at all, diminished at the end of a fortnight, when the patient unexpectedly quitted the hospital, omitting to leave his address. Owing to this inadvertence (possibly connected with the unsettled state of a pedlar's bill), I lost all opportunity of watching the ulterior progress of the case.

Dislocation of the lens into the anterior chamber is not so rare as to deserve special notice. In some of these cases the detached body alters its position from time to time, slipping

backwards and forwards through the pupil: generally the lens is considerably diminished in size, (if indeed more than the nucleus is originally displaced); and it commonly becomes opaque very shortly after the accident.

In the present instance, as there seems every reason to believe, the crystalline assumed its abnormal position immediately upon the infliction of the violence to the globe; and thirty-two days certainly elapsed from that time before any impairment of transparency, or notable diminution of bulk, became apparent. How much longer such changes may have been retarded it is now impossible absolutely to determine. If, however, the vital processes of nutrition, and of removal of effete particles, were efficiently carried on in the lens, apart from its normal matrix, and immersed in aqueous humour, for upwards of a month; or, on the other hand, if those processes were with impunity suspended for a like period,—(and I can imagine no third hypothesis, except the supposition that the entire capsule might have accompanied the lens into the anterior chamber—a most improbable occurrence, when the extent and intimacy of the connections of the capsule are considered,)—whichever of these explanations be correct, it seems hard to fix any subsequent limit to the time during which the lens might thus independently preserve its integrity and essential characters. If the crystalline lens, though completely dislocated, be capable of maintaining itself whole and transparent for a full calendar month, why not for twelve, or more?

The practical tendency of this inquiry is direct; for as it is probable, that, even under the circumstances just narrated, cataract may not have ensued for an indefinite period; so, *à fortiori*, is it likely, that, had our efforts to procure the replacement of the lens been successful, that disease might never have arisen. Hence it would appear incumbent on us perseveringly to employ the most suitable measures for obtaining the restitution of a dislocated lens, so long as it remains transparent, to its natural position; in the confident anticipation that, at least in some instances, success in our immediate aim will be the harbinger of ultimate success, by the final preservation of this highly important constituent of the organ of vision.

The most promising means of effecting the return of the crystalline to its proper bed consist in producing wide

dilatation of the pupil, and enjoining a recumbent posture, with the head resting on the occiput; to which might be added, gentle friction over the surface of the cornea through the medium of the upper lid. In order to obtain the required condition of the pupil, a solution of atropine, of three grains to the ounce, is much preferable, both for instillation on the conjunctiva and application to the lids, to the mere extract of belladonna, either in substance or solution, being more cleanly and much more powerful.

In the present case, amaurosis had gradually resulted from the irritation created by the pressure of the lens upon the iris; and on the patient's admission it was complete. In the hope of procuring reduction of the lens, extraction of that body was not, of course, resorted to in the first instance; and, subsequently, the progressive improvement of vision, under purely medicinal treatment, withdrew the inducement to operate, which the certain prospect of relieving the amaurotic symptoms had originally afforded. Belladonna was therefore applied at once (atropine not being at hand), and the patient was directed to keep his bed, and maintain the supine posture; but, as has already appeared, these measures were unavailing. Their failure was mainly attributable to the inability of belladonna to produce its wonted effect upon the iris, compressed, as that structure was, between the crystalline and vitreous humours: it was also greatly owing to the patient's indisposition to persevere with a restraint which his habits of bodily activity soon rendered irksome.

The following case was first brought under my observation, two years ago, by my late neighbour, Mr. Willisford, who had himself published some notice of it in the fifteenth volume of the Medical Gazette; and who, inferring my interest in the subject from a similar case inserted in the Guy's Hospital Reports for April 1842, kindly directed my attention to it.

It is thought that the subjoined description, made at an interval of twelve years from the previous notice, may not be destitute either of value or interest.

CASE 2.

SARAH H——, aged 17, is a person of short stature and dark

complexion. A few days after birth a peculiarity was observed in the appearance of her eyes, for which the mother was fain to account by the impression created on her own mind, during pregnancy, from the unpleasant aspect of a blind fellow-lodger with oscillating globes. Notwithstanding some unfavourable prognoses, the child acquired sight; and was eventually sent to a school under the superintendence of the parish priest, where she learned to distinguish the capital letters of an ordinary octavo, and could see sufficiently to pick up a pin from the floor. Light, however, was always disagreeable to her, and the eyes were very subject to inflammatory attacks. Between the ages of twelve and fifteen, morbid sensibility to light became less marked; indeed, there supervened some symptoms of impending amaurosis. She lost, to a considerable degree, her power of distinguishing letters; was less able to guide herself in the dusk than in day-light; and vision was not assisted by the use of a perforated card. At this period I saw the patient for the first time.

June 1847. The girl's complexion, as before mentioned, is dark; and the hair, eye-brows, and eye-lashes, which are plentiful, are black. The globes are altogether ill-developed, perhaps two-thirds of the average size for an individual of this patient's age; they are affected with continual oscillatory motion; the openings of the palpebræ are short, but not disproportionate to the bulk of the eye-balls.

The cornea of the right eye is much smaller than usual, its centre hazy, and the surface of the hazy part scabrous; the sclerotic, of much less capacity than ordinary, appears otherwise healthy, and possesses a due degree of tension. The iris is totally deficient, except towards the temporal side, where a narrow rudiment of the membrane exists, presenting a diameter of about a line at the broadest part, and extenuating itself to a point at either extremity: it thus constitutes a narrow crescent of light brown colour, the only septum between the chambers of the eye; for, with this exception, the entire space behind the cornea appears uniformly black.

The cornea of the left eye is very small, with a nebulous centre, where the surface is irregularly flattened. The sclerotic is of corresponding size, but otherwise healthy. In this organ, likewise, the sole vestige of iris consists of a narrow, light-

brown crescent, confined to the temporal side; and the observer looks uninterruptedly through the remaining space to the dull black fundus of the eye. In neither globe is there any appearance of cataract; yet in neither are the deeper reflected images of a candle discernible upon catoptrical examination; a circumstance owing, probably, to the irregularity and central haziness of the surface of the cornea. Intolerance of light is by no means considerable in the ordinary uninflamed condition of the eyes; but the patient continues subject to slight attacks of ophthalmia, productive of troublesome photophobia. Vision, which is most imperfect with the left eye, is sufficient to enable the patient to find her way about accustomed places, and to execute a little coarse work; but she cannot thread a needle, or pick up a pin from a light-coloured surface; and at dusk her visual powers are still more deficient. No other member of the family, parent or child, is similarly affected.

Little need be said respecting the case just described, although it is one of rare occurrence. The deficiency of the iris was the most marked and singular feature attending it; yet, evidently, this deficiency was but one item of a general arrest of developement in the globe and palpebræ. Some observations on the subject of irideremia were attached to the case formerly published by me in the *Guy's Reports*, and for the most part they apply to the present example, but do not require repetition here. Suffice it to remark, that, as in that instance, the retina being endowed with and retaining its normal irritability, spasmodic contraction of the orbicularis regulated the quantity of light admitted within the globe; while central cataracts and corneal nebulæ served still further to moderate the brilliancy of that transmitted to the retina. In the case under consideration, compensatory provisions of this kind having been less fully established, the retina became blunted in sensibility. Of the two cases, the necessities of which were thus diversely met by Nature's vis medicatrix, the result, as regards effective amount of visual power, was very nearly the same; while, as regards the degree of illumination under which vision was most advantageously exercised, it widely differed.

CASE 3.

ELIZABETH M——, aged 48, became an out-patient at the Eye Infirmary, Jan. 12, 1846. From her account it appeared that, twelve years previously, she had been attacked with partial hemiplegia, which was of temporary duration, but accompanied with diplopia and impaired sensation of the right side of the face and right conjunctiva. This incomplete anæsthesia was ushered in with a feeling of coldness of the affected surface, as if constantly exposed to a chilling draught, and had remained to the period of her application at the hospital. Vision had been good with both eyes; but the right was troubled with *muscæ*, and was the less perfect of the two, having a small speck on the cornea. She had been subject to so-called gout on the affected side only. Ten days prior to presenting herself at Guy's, on awaking from sleep, she found the right eye incapable of distinguishing objects, and affected with luminous spectra: these symptoms continued for a couple of hours, when the ordinary state of vision was re-established, but the globe was then observed to be blood-shot and filmy.

Jan. 12. The patient complained of great drowsiness, but was free from headache, vertigo, or diplopia: the right cheek and conjunctiva were benumbed; but the forehead, the interior of the cheek, the tongue, and teeth preserved their sensibility, and the muscles of the jaw and face were unaffected. The conjunctiva of the right eye was morbidly injected, apparently from common rheumatic inflammation: the cornea was extensively, but superficially ulcerated, and deeply nebulous; and vision was of course much impeded. She had been briskly purged before coming under my care. I ordered a compound calomel pill to be taken night and morning, and some infusion of *cascarilla* with sesquicarbonate of soda three times a-day; a blister to be applied to the nape; and a collyrium of *vinum opii* in thrice the quantity of *liquor ammoniæ acetatis* to be used occasionally.

From the above date the case underwent steady improvement: the mixture appeared to induce headache, and was therefore discontinued, but the general plan of treatment was of decided service. By the seventh of February the paralysis was relieved, the conjunctiva being more sentient, though still far from naturally so. The vascularity of the

membrane had subsided; the nebulous state of the cornea had diminished; its ulcerated surface was nearly healed; and vision was consequently improved. The patient remained another month under my care, during which, save the occasional recurrence of pain in the head, and once a relapse of conjunctivitis, the course pursued by her malady was one of gradual convalescence. The cheek and conjunctiva regained their power of sensation to a great degree, but remained morbidly alive to impressions of cold, and subject to the feeling of formication on the contact of a finger. It was remarkable, and drew the spontaneous observation of the patient herself, that, as the sensation of the conjunctiva returned, intolerance of light arose, a symptom which had been entirely absent at the earlier period, while sensation of the membrane was annulled, though both it and the cornea were then in a far higher state of inflammation.

Of the condition of the pupil I have unfortunately preserved no note: the ulceration and nebulous suffusion of the cornea, however, must have rendered decision on the subject difficult if not impracticable.

One of the points which first attract attention in the preceding case, is the peculiar localization of paralysis, as affecting the face; the function of the first and second divisions of the fifth nerve, and of each of these in part only, having failed. Thus, sensation of the forehead was natural; that of the conjunctiva was abrogated: again, the exterior of the cheek was benumbed, while its lining membrane was sentient as usual. For such apparently capricious exemptions I deem it, in the absence of a necroscopic examination, impossible to account.

The case suggests an inquiry as to the nature of the connection between the paralytic and inflammatory affections of the conjunctiva, of which it affords an example. That a connection does exist, the frequent coincidence of the two affections, as, proved by the concurrent testimony of numerous observers, has satisfactorily established. But it may well be questioned, whether the form of conjunctivitis, so apt to ensue, and to lead to destructive inflammation of the cornea when paralysis of the fifth nerve has taken place, is really owing directly to the withdrawal of some peculiar presiding influence

exercised by the nerve in question over the nutrition of those parts; or simply originates from the unperceived, and therefore disregarded and continued, irritation of extraneous particles and currents of air, creating common inflammation of structures, the conservative powers of which are weakened (as those of every other part are well known to be,) by paralysis. The latter theory recommends itself to my own mind with the greater force, as it appears adequate to explain the phenomena, without the necessity of admitting that endowment, *sui generis*, of the trigeminal, which the former supposes.

I confess, however, it is more difficult to reconcile this explanation with Valentin's than with Magendie's account of the results of division of the fifth nerve: for while the latter allows that several days elapse before the destructive processes commence; the former states, that "disease of the globe on the affected side so rapidly supervenes, that in sixteen or twenty-four hours it is cognisable with the naked eye," and subsequently proceeds rapidly. But it may well be believed, that any morbid change naturally disposed to ensue upon simple interruption to the function of the fifth nerve would be both aggravated and accelerated, when such interruption is artificially produced by an operation, the extent of injury inflicted by which may greatly exceed the operator's intention. And corroborative of this view is the fact, that, in recorded cases of paralysis of the trigeminal from disease, the symptoms of ophthalmic affection have neither been so prompt in their origin, nor so active in their progress, as Valentin's experiments might have induced us to anticipate, but have pursued a course perfectly consistent with the theory adopted above.* Several such cases even are mentioned by the author just quoted; and the example before us at once illustrates the chronic nature, and proves the remediability of the ophthalmia in question. Finally, two cases to be described hereafter in the present paper will substantiate the conclusion, that ophthalmia is by no means a necessary consequence of paralysis of the first division of the trigeminal.

CASE 4.

SARAH B——, aged 16, was admitted into the Eye Infirmary

* See Cases by Sir Charles Bell, Abercrombie, &c.

in March of the present year. She was a thin, pale, cachectic girl; but stated she had been well fed, an assertion which her enfeebled frame rendered more than problematical. She dated the onset of her complaint to a period shortly before admission, when the flow of the catamenia had been suddenly arrested from exposure to cold. Apparently from this cause, severe strumous ophthalmia supervened, the intolerance of light accompanying which was most intense; and the right cornea first, and then the left, became opaque from violent asthenic inflammation. The routine treatment in cases of this kind was resorted to, such as a course of tonic purgatives, with alterative mercurials, leeching in the immediate neighbourhood of, and caustic-irritation at a short distance from, the affected organs; but the usual beneficial results did not ensue to the wonted degree, photophobia continuing, and being little, if at all, relieved. The instillation of a belladonna collyrium, however, was attended with better effects upon this distressing symptom, which was finally removed by a free application of nitrate of silver to the skin of the superior palpebræ; considerable pain at the time, and a little œdema subsequently, being the only unpleasant consequences of its use. Thenceforward, with slight intermissions, she made steady progress towards recovery from the ophthalmic disease: the spasmodic contractions of the orbicularis muscle ceased with their cause; the conjunctival inflammation gradually subsided; corneitis simultaneously yielded; and the opacity of the corneæ in great measure dispersed.

These gratifying events, however, were not without a drawback. While our principal attention was naturally (and properly) occupied in remedying the most urgent complaint, the left ear had become almost totally deaf, and the right so much so, that it was necessary to shout, with the mouth applied to the organ, in order to convey a meaning.

Nor was this all. On the evening of March the 29th, a fortnight or three weeks from the onset of deafness, it was observed that the left side of the face was becoming paralytic, the mouth being drawn to the right side. Motor power, however, was only impaired, not destroyed, and sensation continued healthy, while the right side enjoyed both endowments perfect. With these symptoms there were no corresponding

signs of cerebral affection, vertigo, headache, tinnitus, somnolency, or gastric irritability. Some absorbent glands about the ascending ramus of the jaw were enlarged, apparently from strumous disease; but there was no induration or tension of the structures in their immediate neighbourhood.

Dr. Hughes saw the patient with me, and the result of our consultation was, to order a mixture of ammonio-citrate of iron with infusion of quassia thrice daily, a seton beneath and behind the left ear, and a hip-bath every evening. Menstruation had not occurred since her illness.

April 20. No benefit had accrued in respect of the functions of the ear or uterus; but the patient had continued to convalesce from her ophthalmic attack, and the facial palsy of the left side had almost entirely disappeared. Without the occurrence of any premonitory cerebral symptoms, unless increased failure of hearing on the corresponding side were to be so regarded, the right facial nerve now manifested impairment of power to about the same degree as the left had previously done. The mouth betrayed an inclination towards the left side, the right palpebræ became incapable of closure, and the right brow of corrugation, &c.

The tonic plan of treatment was nevertheless persevered in, with marked benefit to the general health, and with coetaneous improvement of vision. In July, when the patient had some time ceased being an inmate of the hospital, the cornea, though making slower advances (delayed by the lingering duration of a little chronic conjunctivitis), yet promised to regain nearly perfect transparency: the right side of the face still manifested incomplete motor palsy; deafness on both sides was all but total; and menstruation had not been re-established.

The foregoing case has been related partly as exemplifying the striking benefit occasionally derived from the external application of nitrate of silver in strumous ophthalmia. Being a somewhat severe remedy, and, though well calculated to combat one particular symptom, and that a very troublesome one, yet not competent to strike at the root of the malady, which is ordinarily dependent upon disorder of the primæ viæ, it is not in common use at the Guy's Eye Infirmary. When, however, intolerance of light obstinately remains, notwith-

standing the relief of intestinal disorder, and the mitigation of local inflammation by appropriate means, the application either of tincture of iodine, or of lunar caustic, to the cutaneous surface in the immediate neighbourhood of the conjunctiva is sometimes of eminent service. Does not the circumstance of such application to parts supplied by the fifth nerve being beneficial, but more especially the fact of belladonna collyria being highly advantageous, when photophobia is severe and obstinate, tend to invalidate the prevalent opinion, that morbid irritability of the retina is the cause of this symptom? The doubt here suggested gathers weight, when we consider, that not only is belladonna beneficial—a remedy ensuring a larger than previous afflux of light to the retina, by means of the dilatation of pupil which it produces—but that also the symptom under discussion may exist in a high degree when the cornea is opaque from inflammation, as was manifested in the case just detailed.

The last case but one likewise affords great countenance to the rival theory, that strumous intolerance of light is identified with morbid irritability of the conjunctiva, and not with irritability of the retina; and, of consequence, that the fifth, not the second nerve, or its expansion, is at fault: seeing that when anæsthesia was perfect, photophobia was entirely absent; but on the relief of the former, the latter immediately supervened, notwithstanding that inflammation had meanwhile been mitigated.

Space will not now permit me to enter into this argument at length; indeed, it is somewhat beside the scope of the present communication; but I cannot leave the subject without alluding to the ready explicability of the paroxysms of sneezing, so often caused by exposure of the eyes of patients with strumous ophthalmia, on the theory of the conjunctiva (a membrane, like the Schneiderian, copiously supplied by the ophthalmic nerve) being in a state of irritation. Grant this theory, and the parallelism in causation of the phenomenon, when excited by an unusual stimulus, as snuff, applied to the quiescent Schneiderian, or a wonted stimulus, as atmospheric air, applied to the same membrane irritated by nascent catarrh on the one hand, and when excited by light impinging on a morbidly irritable conjunctiva on the other, becomes apparent;

different branches merely of the same nerve being, in that case, the afferent vehicles of an excito-motory impression.

Again, lacrymation is excited simply by irritation of different branches of the same nerve, whether produced by stimulant particles applied to the nares, or to the surface of the conjunctiva. Why, in cases of intolerance of light, must it be originated through a separate nervous channel?

We are no more bound, it must be observed, on the admission of this theory, to concede the least amount of *visual* power to the fifth nerve, than we are to acknowledge the residency of that power in camphor or a solution of lunar caustic, because those substances exhibit an unquestionable appreciation of the presence of light. But, on the other hand, to attribute to the conjunctival filaments of the ophthalmic a consciousness (so to speak) of the presence of light,—independent of the properties of that agent in relation to special sense, but connected, it may be, with its general chemical influence,—is but to recognise their possession of a sensibility, supplementary, indeed, to, but in strict accordance with the prophylactic character of, that which they are universally allowed to enjoy. The ophthalmic nerve is the sentinel of the eye.

One more fact corroborative of the view respecting the seat of photophobia here proffered I must mention, viz. that inflammation of the conjunctiva and cornea habitually follows in the train of strumous intolerance of light; but affections of the retina, either inflammatory or paralytic, as its consequences, are unknown.*

In the course of the case under consideration, an important question arose as to the nature of the facial palsy. Ushered in with the usual concomitants of cerebral disorder, there could have been no hesitation in ascribing it to encephalic mischief; but no symptom of the kind, save deafness, was present: or, accompanied by tumefaction, or actual tumor creating tension, between the mastoid process and ascending ramus of the jaw, we should have had no difficulty in tracing it thereto, as to a competent cause; but neither was there any ground for this supposition. The intermediate portion of the facial

* Baron Dupuytren's opinion of the identity of photophobia and retinitis, as developed in his "*Leçons orales*," is probably not held at the present time by any ophthalmic surgeon.

nerve, where it traverses the temporal bone, was, therefore, the only remaining division of the nerve, to an affection of which (if of nervous origin at all) the paralysis could be assigned; and in support of the opinion that such was the seat of disease several considerations presented themselves. The highly scrofulous character of the patient, and consequent liability to disease within the petrous portion; her actual subjection at the time to scrofulous ophthalmia, which was retroceding apparently under the influence of the remedial measures employed; the simultaneous supervention of almost total deafness; all tended to confirm the inference which the process "par exclusion" had suggested. When, acting upon this belief, we pushed the tonic treatment more energetically than before, and local counter-irritation only was superadded; and, under such measures, the patient improved in health, and recovered from the muscular palsy, the correctness of the diagnosis seemed established. Lastly, upon similar paralysis of the opposite side of the face, subsequently accompanying aggravated deafness with the corresponding ear, (no indication of cerebral disturbance even then arising,) the hypothetical strumous thickening or deposit within the cavities of the labyrinth or tympanum, encroaching upon the canal of the portio dura, appeared deficient only of actual demonstration. Happily the convalescence of the patient afforded no opportunity of supplying this pathological desideratum.

CASE 5.

JOHN C——, aged 27, was admitted into the Eye Infirmary on January 4, 1847. He was pale and cachectic; married; by occupation a steam wool-carder, and had for seven weeks suffered severely from pain in the left temple, increased upon stooping, and on assuming the recumbent posture at night. His appetite had been failing for about the same length of time, during which he had taken meat but once or twice a week. He had been devoid of vertigo, tinnitus, and sickness, except such as might be traced to dietetic error; and his memory and other mental faculties remained unimpaired.

On the 23d of the preceding month, the sight of the left eye had first become dim, and thenceforward had deteriorated daily; and progressive diminution of power to raise the superior

palpebræ of the same side had commenced a week subsequently. On admission, the left upper lid hung within a line or two of the inferior one, but was, with an effort, capable of sufficient elevation, by means of the levator palpebræ, to allow of two-thirds of the pupil coming into view; and when the exertion of the occipito-frontalis was permitted, the lid could be raised with more ease, though scarcely to a greater extent. The globe rested, with the cornea, in the central position, from which the latter stirred about a line only, either upwards, downwards, or inwards, in unison with the motions of the opposite organ; while the power of abduction was totally lost. The pupil varied, being now contracted, now more dilated, but apparently independent of light; the slightest appreciable, if any, contraction ensuing upon sudden exposure to its influence. On the temporal side there was an obscure adhesion of the iris to the capsule of the crystalline lens. The patient was unable to distinguish day from night with the affected eye.

The left cheek, from the lower lid to the upper lip, was benumbed; but the conjunctiva, and the muscles of the face, were unaffected.

The right side, including the right eye, was healthy; the pulse was about 70, weak and small; and the bowels were constipated. With the exception of blistering the temple, no treatment had been instituted.

Jan. 8. Numbness had increased in degree, and extended to the forehead and side of the head; and indistinctness of hearing on the left side had supervened. The left eye had become more prominent than its fellow; a symptom arising from withdrawal of the tonic retractive force ordinarily exercised by the recti muscles, as was proved by the adequacy of very gentle pressure with the fingers to replace the globe *in situ*.

22. The globe seemed more perfectly motionless than before; and the left pupil, still equally disobedient, had assumed a greater habitual dilatation than was displayed on the opposite side: the numbness of the cheek, however, had diminished; an annoying pulsatory sensation in the ear had subsided; and headache had entirely ceased. He slept well; his appetite was good; and his appearance and feelings generally had undergone a marked change for the better. This benefit had re-

sulted under the employment of cupping to six ounces, and a brisk cathartic at first; followed up by the use of blisters behind the ears; of mercury in alterative doses; and of mild tonics, as cascarilla with iodide of potassium, and decoction of sarsaparilla with sesquicarbonate of soda. The hospital middle diet had been allowed.

Feb. 8. Little improvement had become apparent since the previous report, beyond a trifling increase, perhaps, in the mobility of the globe, and a reduction of the habitual area of the left pupil to the size of the right in its medium state. The left continued utterly irresponsive to the influences of light; but upon instilling some drops of a solution of belladonna between the left palpebræ, this pupil, in a few minutes, became widely dilated, amaurosis being still perfect.

I noticed on this occasion, for the first time in the living eye, the translucency of the sclerotic, choroid, and pigmentum nigrum, which is demonstrable in the following manner:—If, in a darkened chamber, the dilated pupil of an eye, having its anterior transparent media healthy, be inspected, while a candle shielded by the hand (as in testing a hydrocele) is held on the temporal side, a dull red appearance, produced by the light traversing those tunics and their blood-vessels, will become manifest behind the corresponding part of the iris.

15. Recovery was progressing; numbness of the cheek and forehead had ceased; ptosis was greatly diminished; and the upward, downward, and inward motions of the globe were considerably improved. The left pupil had continued in the state of dilatation procured by a single application of belladonna a week previously, being still twice or thrice the ordinary diameter of the right pupil; amaurosis was in no degree relieved; nor was the power of the external rectus at all regained. The patient was still troubled with occasional pains in the head, and throbbing at the temple; but was free from vertigo and tinnitus: the pulse remained quick and feeble.

He was discharged, at his own request, shortly after the last date.

March 1. The motions of the left eye had suffered no fresh impairment: not so its sensations. There had been some shooting pains in the eye; and eventually the conjunctiva had become affected with anæsthesia to such degree, that a foreign

body introduced between the lid and globe was not perceived by the patient, and excited no spasmodic action of the orbicularis; yet the membrane was moist. The feeling of the forehead and cheek was more impaired than before; but the tongue and nostril were sentient, and the facial nerve seemed unaffected. The left pupil was still larger than its fellow by about half the diameter of the latter: amaurosis continued complete.

I saw this man no more. The serious relapse under which he was suffering on his last application leaves little room to doubt of what nature was the termination of the case. Unfortunately I mislaid his address, and so lost all clue to his residence, and all hope of obtaining any certain knowledge of his fate.

Little profit would arise from speculating upon the precise character of the encephalic lesion which a necroscopic examination might have revealed in this case. Certain it is, that the extent of that lesion was sufficient to impair, in different degrees, or annihilate the functional energy of the second, the third, the first and second divisions of the fifth, and the sixth nerves of the left side; probably, too, of the pathetic and auditory.

The reader who may have honoured me by perusing the series of cases of ptosis published in the last volume of these Reports, will not fail, in the present instance, to remark the customary non-contractility of pupil which those cases established; though not disconnected in this example from amaurosis, itself competent to modify contractility of the pupil; nor from partial paralysis of the ophthalmic, competent, it may be, to neutralize, to a certain extent, the effect upon the pupil of paralysis of the motor oculi. It is to be observed, that the wide dilatation of pupil, immediately determined by the instillation of belladonna, preceded the privation of conjunctival sensibility; and that the same report which notifies this latter occurrence, records the return of the pupil to a state which well coincides with our idea of its passive condition.

The remaining cases are not without some bearing upon this subject. I am mainly indebted for the following to my friend, Dr. Novelli, who attended it under Dr. Addison; but my own attention was drawn to the case, and I watched it with interest to the termination.

CASE 6.

EDWARD P——, aged 63, was admitted into Cornelius Ward, under Mr. Key, on the 9th of November 1846, suffering from strangulated femoral hernia, which was reduced by the taxis, a small tumor being left in place of the hernia: this was hard to the touch, and in size resembled a hazel nut. Opinions were divided as to its nature, whether glandular or omental.

He was placed under the influence of calomel and opium; and when the sequelæ of strangulation had passed away, a new train of symptoms, referable entirely to cerebral disorder, forced themselves into notice. The mercury was pushed until slight salivation was produced, and counter-irritants of various kinds were tried, without effect. On the 6th of January 1847 he was transferred to Lazarus Ward, under Dr. Addison. The patient then complained of intense pain on the left side of the head and face, recurring at intervals, shooting in character, and converging to the left temple as a centre.

He was a house-painter by trade, very temperate and regular in his habits, and born of healthy parents. He had had various accidents and falls in the course of his business, at too great a distance in point of time to bear upon the present illness; but eighteen months before its onset he had received a severe blow on the left side of his face, between the eye and nose, which stunned him. Some days elapsed before he recovered from the consequences; and from that time forward he had always felt pain when he breathed deeply, or sneezed, at the inner and inferior angle of the left orbit.

Three weeks before admission he was attacked with giddiness and an oppressive feeling of weight on the top of the head: to this succeeded severe shooting pains, of which the left temple formed the centre of intensity. The sight of the left eye, and the hearing of the left ear, then became impaired; double vision was occasionally present; and a week after he came into the hospital he squinted inwardly with the left eye, and the whole of the left side of the face became gradually affected with numbness.

Appearance and Symptoms on admission into the Medical Ward.—He was a man of that dingy-yellow, non-transparent complexion which so often accompanies malignant disease.

The right eye was healthy, with good vision, and active pupil, of medium size. The left eye was inverted, and the power of abducting it lost; its pupil was obedient to the influence of light, but contracted to about half the diameter of the right pupil, though free from adhesions: vision was sufficient to tell rather small objects, as a pencil-case, number of fingers, &c. &c., and the structures of the globe seemed quite healthy. The left nostril was insensible to odours, and the left side of the tongue incapable of taste. Sensation was almost abolished within the following boundaries, viz. a line drawn from the symphysis menti to the vertex of the head (corresponding, therefore, with the mesial line of the body); another at right angles, from the vertex to within a short distance of the upper margin of the pinna of the left ear; and a third drawn from this latter point to the symphysis of the chin, parallel, and a little internal, to the ramus of the jaw. The conjunctiva included within the above limits partook largely in the paralytic affection: a finger applied to it was not felt, nor was spasm of the orbicularis produced by the experiment; yet the membrane was, as usual, moist and uninfamed. Beyond the vertex, immediately above and behind the ear, and along the line of the lower jaw, sensation appeared to be unimpaired. The lesions of motion were confined to the abductor of the eye, (all the other muscles of the orbit being active); the facial muscles, on the left side, the affection of which was manifested by "oblique whistling," imperfect opening of the mouth, and escape of saliva at night; and the muscles of mastication; the left temporal muscle being completely wasted, and the cheek of that side hollow. The secretions of the eye, nose, and mouth, seemed unaffected. The cervical glands on both sides, more extensively, however, on the left, were enlarged and indurated. The contents of the chest and abdomen appeared healthy.

The symptoms of his disease, of which the patient was himself conscious, were, hemicranial pain, occasional giddiness, dimness of vision of the left eye, deafness of the left ear, inability to chew on the left side, and some difficulty in swallowing.

The patient was treated with sedatives and occasional aperients.

No change took place in the symptoms throughout the course of his illness, save that the difficulty of swallowing increased; while sensation seemed, if any difference could be noticed, to improve in some measure.

About four days before the fatal termination, belladonna was applied to the left conjunctiva, and around the left eye-lids. It produced dilatation of both pupils, which had scarcely subsided when death occurred.

The patient was attacked with cynanche on the 20th of February; gradually fell into a typhoid state; and, on the 28th, died exhausted.

On examination after death, the fifth nerve of the left side was found thickened, enlarged, and indurated, from its point of exit from the pons varolii to the cassarian ganglion, which was about three times its usual thickness, and much broader and longer than natural. The principal augmentation of the ganglion was towards the posterior half, and the morbid change continued along the third division of the fifth, running towards an ulcer situated at the base of the skull on the left side, and at the upper part of the pharynx. The cassarian, when cut into, was very firm, and mottled with a yellowish semi-transparent infiltration: the first and second divisions of the fifth were more partially affected than the third; and continuous nervous fibres could be traced through the ganglion, imbedded in, and surrounded by, the infiltration above mentioned, but apparently unimplicated in the disease, save in as far as mechanical pressure might affect them.

Examined by the microscope, the fibres seemed to lie surrounded by a stroma of nucleated cells of oval shape, such as are common in scirrhous growths.

A nodular thickening of the dura mater, on the posterior surface of the petrous portion of the temporal bone, and a similar affection of the dura mater of the left lateral sinus towards the interior wall, seemed satisfactorily to explain the affection of the sixth nerve. There was some thickening of the sheath of the eighth, but no further disease. The above morbid changes were considered to be of malignant character.

The glands of the neck were in a state of suppuration; there was also extensive suppuration at the back of the pharynx and œsophagus, connected with the ulcer already mentioned;

the thyroid was ossified and exfoliating; and an ulcer of the left ventricle of the larynx, involving the left vocal chord, communicated with the dead bone.

The left lung was consolidated and passing into gangrene, ash-coloured sloughing points being scattered in various parts. In the parietes of the tubes, also, were seen sloughing points, communicating with those in the lung-substance. The right lung presented the appearance of the *pneumonie des agonisants*.

Under the pleuræ were found a few spots of cartilaginous hardness, contracted, puckered, and having a cicatrix-like appearance: they were regarded as scirrhus. The heart, liver, and kidneys, shewed the usual senile changes, but were free from absolute disease.

CASE 7.

SARAH S——, aged 30, an unmarried, short-necked, and stout-framed person, was brought under my notice, being a patient of Dr. Hughes's, in June 1847: she had lost the use of her left side in the year 1837, immediately after the completion of one of her menstrual periods, the flow having taken place as usual. For two years from that time she gradually amended; at the end of this interval could walk about; but a second attack of hemiplegia of the same side then supervened, and confined her to her bed for a twelvemonth; after which she recovered, a weakness of the affected side alone remaining.

During sixteen months subsequent to the first paralytic seizure, and for several following the second, the menstrual discharge was entirely absent: scanty menstruation had previously been habitual to her. She had been subject to pain at the back of the head, which she attributed to biliousness, and the bowels had been costive. In July 1846 she had a third attack of her complaint, and the left side again was affected: she was treated for, and relieved of it in the hospital, where she sojourned six weeks.

In April 1847 the patient was re-admitted, complaining of headache and vigilance, and being the subject of occasional struggling fits, wherein, according to her own account, the left side was principally, if not exclusively, affected. The intellect was likewise, at this time, seriously disturbed. For the three months preceding the date of her last admission to the

hospital there had been scarcely any menstrual excretion whatever; and from that period to that of my visit there had been none. I should have mentioned, that each hemiplegic attack comprised the loss of sensation, as well as of motion, on the left side, as also affection of speech; nor did the left side of the face escape either motor palsy or anæsthesia.

It was not, however, till three weeks prior to the last occasion of her coming into the hospital that the patient experienced any impairment of vision: amaurosis was then ushered in with the appearance of falling, circular-formed *muscæ*, which became obscured proportionately with the advance of the disease, and ultimately obliterated a month after her admission, when amaurosis was complete.

The treatment adopted was less successful in combating these latter, than the general symptoms; for during the progress of the amaurotic mischief the patient was relieved of her fits, and regained power over the side, and was enabled to quit her bed about the same time that vision was finally extinguished.

On the 20th of June, when I was asked to see the patient, her state was as follows:—Having to a great degree recovered the power over her left side, she could walk, cautiously, without assistance; her speech betrayed but little disturbance of the muscles of articulation; the fits had entirely ceased; and the intellectual faculties were restored. Still, the left side of the body, with the extremities, was very far from possessing its original vigour; and sensation over the same regions was materially impaired. The left nostril was quite insensible to the presence of snuff; the left ear, which had failed in its function ever since the second hemiplegic attack, was still deaf; the facial muscles of the left side were enfeebled; and the superjacent integument, including that of the forehead, was benumbed. The modification of the sensibility of the left conjunctiva, which was as moist as usual, was curious; the application of the finger to its surface was constantly described to give rise to the feeling of coldness. This was in June, and when no similar sensation was produced, by the same means, on the other and healthy side. The tunics, humours, and consistence of the globes afforded, with the exception just noticed, and that of an abnormal condition of the pupils, every indication of health; but both eyes were perfectly amaurotic, and

the patient was unconscious of light or darkness, day or night. The irides were free from adhesions; the right pupil was about the medium size, and circular; the left was contracted to half the diameter of the right, and rather oblongated in the horizontal direction; neither pupil displayed the least variation, whether exposed to, or shielded from, the light. The extract of belladonna was applied to the conjunctiva, in solution, and to the skin around the eyes, on June 21; and by the 23d had procured full dilatation of the right pupil, and caused the left to enlarge to about the former size of its fellow, much the same relative proportion as before being maintained between the two. The effect of the application did not altogether disappear for five or six days; but at the end of that time the pupils had resumed their previous condition, the same comparative magnitude having been preserved throughout.

The use of mercury and counter-irritation was not attended with any restoration of visual power; and the patient was therefore discharged soon after the date of the last report.

The gentleman who kindly furnished me with the history of the former of these cases, was, with others, convinced of the malignant character of the malady. I must confess myself (after personal inspection at the necropsy) of the opposite opinion; seeing how unquestionably the mischief at the back of the pharynx and œsophagus was the result of common inflammation in a cachectic subject; and how readily explicable was the thickening and induration of the dura mater, the third division of the fifth, and continuous and neighbouring structures, on the supposition of inflammation having extended up the theca of that nerve from the ulcer situated at the base of the skull and upper part of the pharynx, connected as this ulcer was with the suppuration behind that cavity.

But whatever were the true pathological characters of these morbid changes, their interference with the functions of the adjacent nerves was extensive. Thus, on the affected side, the offices of the olfactory, optic, and auditory nerves, of the trigeminal, abducens, and facial, were more or less imperfectly discharged.

The ophthalmic, it is sufficiently evident, was all but completely paralyzed in this case, and was materially oppressed

in that last related; yet in neither, nor in the case of John C—, (who was only once, however, under observation subsequently to the completion of paralysis of the same kind,) was there any sign of that disorganizing inflammation which has been described as the uniform result of the cessation of that nerve's function. The theory respecting such inflammatory sequelæ, when they do occur, which these facts would dispose us to embrace, has been already adverted to in the present paper.

My principal object in bringing the two last cases forward has been, to notice the affection of pupil existing in both. There is great difficulty in pursuing an accurate investigation of the phenomena of the motions of the pupil, with the view of elucidating the laws by which they are regulated, owing to the variety of the nervous channels, through which, directly or indirectly, it may be affected. For afferent impressions reacting upon the pupil may be conveyed either by the optic, or ophthalmic nerve of the same, or of the opposite eye; and we may conceive efferent influences directly transmitted to the iris, through any one of the primary sources of the ciliary nerves. Hence are multiplied the probable means through which any given condition of pupil may have been produced to a very embarrassing degree; but every fresh step in the inquiry, firmly planted, affords, as it were, a *point d'appui* for further advance; while the experiments of the physiologist throw light upon the most promising path of examination for the pathologist to pursue. Thus directed, I had last year the pleasure of presenting a series of cases occurring in public practice, so fully confirmatory of the dependence of contractility of pupil upon integrity of the third nerve, that the fact of this dependence, previously proved experimentally in some of the lower animals, may, I trust, be now considered proved as respects the human subject also. Assuming this, then, as a settled point, the inquiry at once gains additional data, and loses somewhat of its complexity.

Now, the two last cases, though falling very far short of demonstration, do yet strongly countenance the experimentally-derived opinion of Valentin, that the act of dilatation is likewise presided over by special nervous filaments; and that those filaments reach the iris through the ophthalmic nerve.

For in both cases the ophthalmic nerve being affected with partial paralysis, the function attributed to it by the above-named author failed, and the pupil became contracted accordingly. Other nerves, it is true, were paralyzed at the same time; but it were easy to show how greatly the balance of probability is against their failure having had aught to do with producing the remarkable contraction in question; as anatomy would teach, and common experience proves, that paralysis of the olfactory, auditory, and facial nerves has no effect whatever upon the iris; and the abducens nerve may be completely paralyzed, without the pupil displaying the slightest sympathy, as was shewn in the paper already referred to.* Hence, in both cases alike, there only remain the optic and ophthalmic nerves to the affection of which the alteration of pupil can be ascribed. But none will contend that the amaurotic disturbance in one, and the perfect amaurosis in the other case, induced, or disposed to, contraction of pupil. The rule of experience in the matter unquestionably negatives such a position. A contracted pupil is, no doubt, found in certain cases of amaurosis; but when not depending upon actual adhesions, this state commonly exists as an accidental complication, owing to the occupation of the individual with minute work, as a watchmaker, compositor, or, perhaps, needlewoman, having previously made it habitual. Such was not the fact in the present instances, as decisively established by the condition of the other pupil. Taking, therefore, all these circumstances into consideration (without investing them with more than their legitimate import), the conclusion can scarcely be avoided, that the contraction of the pupil was determined by the paralysis of the first division of the fifth.

The contribution of the nasal branch of that nerve to the ciliary ganglion, and its own ciliary offsets, afford obvious means for the conveyance of the supposed influence to the iris in health. It is not to be concealed that a difficulty attends this explanation, in consequence of the obedience of the pupil in both cases to belladonna; but this objection may, perhaps, be met, by recollecting that in neither instance was paralysis complete. But however we may explain it, the fact equally remains as a difficulty, that the dilating power, weakened

and become dormant under ordinary conditions, did evince a capability of exertion on the application of its specific excitant.

Undue importance, it may be thought, is attached above to a simple phenomenon; but it must be remembered that that phenomenon *must have a cause*; and though to some the investigation may appear trivial, it is not really so. We are still without certain rules of universal application, as respects the condition of the pupil in the varieties of cerebral affection, whether of idiopathic origin, or resulting from violence: how better are the true principles to be ascertained, which should guide us in the interpretation of the conditions of pupil in these circumstances, than by settling the *immediate* nervous agency which controuls it?

Valentin, in a publication which I have had the honour of translating,* has adduced some cogent arguments, from experiment and otherwise, in favour of the presidency of certain fibrils of the ophthalmic nerve over dilatation of the pupil. These arguments, I must admit, have never seemed to me conclusive; but should subsequent observations prove that a contracted pupil is the uniform accompaniment of paralysis of this nerve, surely demonstrative proof of the truth of Valentin's theory will be very nearly approached. The above cases, at most, only create a presumption in its favour. I must leave to those who have larger fields of experience in paralytic affections, the absolute settlement of this interesting and important investigation.

* Med. Gaz. Vol. XXXVII.

OBSERVATIONS
ON SOME OBSCURE AND DIFFICULT FORMS OF

H E R N I A :

WITH CASES AND ILLUSTRATIONS,
BY EDWARD COCK.

READ BEFORE THE MEDICAL SOCIETY OF GUY'S HOSPITAL,
FEBRUARY 2, 1847.

EVERY one who has seen much of surgical practice, either in public or in private, must have experienced the painful anxiety and disappointment connected with certain cases of hernia, where symptoms of strangulation continue after the real or apparent reduction of the intestine, which go on to the destruction of the patient's life, without hope of remedy;—cases where we have recourse to the forlorn hope of an exploratory operation, and are too often foiled in our endeavours to reach, or even to discover the seat and cause of the mischief.

The causes of internal abdominal obstruction, totally independent of hernial protrusion, are most varied and almost infinite in their character. Thus it may depend on intussusception, twisting of the intestines, strangulation by bands of adhesion either encircling or pressing on the bowel, and many other forms respecting which much has been said and written. They are always obscure, and generally fatal.

The few observations which I have thrown together have no reference to obstruction from causes essentially resident in the abdominal cavity, but to those cases only which are connected with a previously existing protrusion of omentum or intestine, or both; where the strangulated bowel and the seat of stricture, although contained and concealed within the abdominal walls so as to be wholly beyond our reach, or, at any rate,

accessible with the greatest risk and difficulty, is nevertheless dependent on a rupture having existed at a more or less recent or remote period through the ordinary outlets.

I believe I shall render myself most intelligible by describing, under three different forms, certain cases where strangulation exists as the result of a hernial protrusion, but which, at the same time, are not remediable by the ordinary operation for hernia.

The first of these forms is, where, by the manipulations of the surgeon or the patient, the peritoneal sac, together with its contents, has been returned through the internal ring, and occupies a position between the internal abdominal walls and the peritoneum. I can call to mind more than one instance in which it seemed probable that this had occurred; but I can find no record of the particulars of the cases, neither do I remember how far the views entertained were verified by post-mortem examination. It is what the French call "*reduction en masse*," or "*reduction en bloc*;" and I believe Mr. Luke was the first in this country to draw attention to the subject in an admirable paper published in the *Medico-Chirurgical Transactions*. He has given the successful result of two cases where symptoms of strangulation continued after the reduction of a hernial tumor, and where he was led to suspect the nature of the mischief by the clear history of a former rupture, its complete disappearance under the taxis, and the entire absence of any thing like the existence of a sac, after an external examination of the rings and the inguinal canal. Under these circumstances he laid bare the inguinal canal, exposed and dilated the internal ring, until he brought into view the sac lying immediately above it, between the fascia transversalis and the peritoneum. The sac was then drawn down into the canal; and the original hernia was thus reformed and operated upon like an ordinary bubonocoele. The Paper is one of immense value in a practical point of view, and the satisfaction which I experienced in reading it could only be exceeded by that of the successful operator in these obscure and difficult cases.

A third case is likewise mentioned in which the operation was performed too late to save the patient's life, the intestine being already in a gangrenous decomposed state.

Another instance of the *reduction en masse* is recorded

in the Museum at Guy's Hospital, and illustrated by drawings of the parts. A small scrotal hernia, which had existed and occasionally descended for thirty years, was returned, together with the sac, into the abdomen. The symptoms of strangulation continued, until the patient died three days after the reduction. (Vide Inspection Book, No. 6, p. 63.)

I shall dismiss this form with the foregoing allusion to Mr. Luke's Paper, which contains far more information on the subject than my experience will enable me to supply.

The two remaining forms are of a totally different nature, more puzzling and obscure in their character, and far less amenable to surgical remedial measures.

The first consists of the prolongation of the hernial sac beyond the internal ring into the abdominal cavity, where it becomes dilated into a pouch of greater or less size, lying on the fascia iliaca, between the internal ring and spinous process of the ilium, and contained between the fascia transversalis and the peritoneum. On the inner aspect of this pouch, at a distance of between one and two inches from the internal ring, is the opening of communication with the peritoneal cavity, and the circle of this opening forms the seat of stricture. This pouch is no doubt of slow and gradual formation, and appears to be the result of frequent and protracted manipulation to reduce an old hernia, which has been in the habit of constantly descending through a lengthened period of time. The repeated application of the taxis, and the means constantly used by the patient to return the intestine as often as it protruded, appear at length to have had the effect of separating the circle of peritoneum constituting the mouth of the sac from its connection with the margin of the internal ring; a portion of the sac becomes pushed upwards from the inguinal canal through the opening in the fascia transversalis, and gradually dilates into the cavity or pouch which I have already described.

A general outline of the history of one of these cases would probably be much as follows:—The patient has for years been the subject of a reducible inguinal hernia, which has constantly descended and been as often returned, sometimes, and especially during the latter periods, by prolonged and forcible efforts. Pain about the inguinal region and general abdominal symptoms, have occasionally continued for some time

after this reduction was effected. Probably at the last descent unusual difficulty was experienced in returning the intestine, and it was gradually worked up, as it were, instead of passing into the abdominal cavity with that celerity and gurgling sound which characterizes the successful manipulation of the taxis upon a considerable volume of intestine. Perhaps in these cases it will be found that the symptoms of obstruction have supervened somewhat slowly, and are rather those of incarceration than strangulation. As no relief can be obtained by the ordinary means, an operation is determined upon, in the hope of finding a knuckle of intestine in the inguinal canal or at the mouth of the internal ring. The sac is opened and found empty or perhaps containing a portion of omentum. The inguinal canal is next explored and found to be unusually long; and this is a remarkable feature in these cases. Instead of the direct communication between the scrotal sac and the abdominal cavity at the external ring, which obtains in most old herniæ from the obliteration of the inguinal canal, the latter will be found to have maintained its original length, the distance between the rings appearing to be almost greater than in the normal state. At length the internal ring is brought into view and is found perfectly free and unusually large, and the finger appears to pass readily into the abdominal cavity, where it comes in contact with the intestines. No more can be done, the confines of explorable ground have now been reached, the patient is abandoned to his fate, and dies.

A post-mortem examination explains the mystery. The internal ring through which the finger passed did not communicate with the abdominal cavity, but led into the adventitious pouch, where the incarcerated intestine was recognised and felt.

I have thus endeavoured to give a sketch, as far as my limited experience has enlightened me, of the general features which characterize this form of hernia; and its nature will be further explained by the accompanying drawings, which I had taken from the recent parts which remained for a short time in my possession, and were then deposited in the Museum of the College. The history of the case is this:—The patient, who at the time of his death was about 35, had, from an early period of his life, been the subject of a reducible congenital hernia on the left side, which had accompanied the descent of

the testicle. He had been in the habit of frequently returning the intestine without difficulty. Some years previous to his last fatal attack, an unusually large volume of intestine had descended and remained irreducible, giving rise to the ordinary symptoms of obstruction. Various means were employed, and at length, under the use of very considerable force, the reduction was effected; but it was then found, that not only the intestine, but the testicle also, had been passed up through the internal ring. The testicle never made its appearance again, neither could it be at any time felt; but the original sac, or at any rate the greater portion of it, remained as before, extending through the inguinal canal into the scrotum. Into this the hernia would occasionally descend as before, but was reduced with greater difficulty, and on more than one occasion he had experienced temporary symptoms of obstructed bowel. It was after the last of these reductions that the symptoms which had accompanied the descent continued to remain unabated, and, resisting the ordinary remedial measures, assumed all the characters of decided strangulation. Two surgeons of considerable eminence were called in, who, upon external examination, could discover nothing but what appeared to be an empty sac. The sac was opened, was found indeed to be empty, and was traced up until a view of the internal ring was gained. The finger passed readily through the opening, as was supposed, into the peritoneal cavity, and the intestines were distinctly felt. Further exploration was declined, and indeed there seemed to be no rational clue to direct the investigation. The vomiting, pain, constipation, and other evidences of bowel obstruction continued until the patient died in the course of a few days. (The drawings fully explain the nature of this hernia and the cause of the difficulty. Vide Plates I. and II.)

I remember having seen in the Museum of the College at Edinburgh or Dublin a preparation precisely similar, with the exception that it was not congenital. To the best of my recollection, the history of the case was nearly identical with what I have already related.

The third instance I have to relate occurred to myself a few weeks ago.

R. E——, aged 64, was admitted into Luke Ward on the evening of January 11; a shoemaker, a stout man with a thick layer

of fat over the abdomen. Had had a partially-reducible scrotal hernia on the left side for 36 years;—I say partially reducible, for it seemed that for a very considerable period the sac had contained a quantity of permanent adherent omentum. He had worn a truss, but not constantly; and for many years the bowel had been in the habit of descending, and had been returned by him with more or less force and difficulty: latterly he had often suffered from general abdominal symptoms and pain in left groin. On the 10th, at 4 A.M., a large quantity of intestine had passed into the scrotum and become irreducible, since which he had suffered from the ordinary symptoms of strangulation. When I first saw him, some hours after his admission and nearly forty-eight hours after the descent of the hernia, he had already had the warm-bath, a full dose of calomel and opium had been given, and ice had been applied. I attempted the reduction, and after making moderate pressure, the volume of intestine passed slowly but distinctly up into the abdomen, leaving a considerable mass of omentum in the sac. He expressed himself perfectly satisfied that the parts had resumed their ordinary condition, was relieved from the pain, and, in fact, the symptoms ceased.

Jan. 12. An injection brought away some fæcal matter, evidently from the large intestines. He remained free from actual symptoms but felt an uneasiness about the belly. Some magnesia and salts were administered, and rejected after the second dose. In the night the vomiting and pain returned, and the next morning, January 13, he had again all the symptoms of obstruction, the fluid rejected from his stomach assuming a stercoraceous character. He was evidently getting worse, and I therefore determined to explore the sac. It was found to contain nothing but old indurated omentum, adherent at the bottom and round the sides of the cavity. These adhesions I detached, and laid open the inguinal canal, which was unusually long and seemed to extend upwards and outwards even beyond the natural situation of the internal ring. After dividing a band of omentum which stretched across, I obtained a clear view of the internal ring, which was large and open, and my finger readily passed through it apparently into the abdominal cavity. I could feel intestine, but obscured by

omentum, which seemed to have contracted adhesions about the margin of the ring and its neighbourhood. The difficulty of the examination was increased by the depth of the parts and the quantity of superjacent fat. I did not well see what more could be done. I certainly felt inclined to refer the cause of mischief to some entanglement of the intestine, or pressure produced by bands of adherent omentum within the abdomen, as I have witnessed in former cases; and, to afford the patient every possible chance of relief, I detached all the adhesions I could reach around the margin of the ring, and then closed the wound. The rest of the story is soon told. The symptoms continued unabated; peritonitis with moderate distention of the abdomen supervened; and he sank and died January 17, being the eighth day after the original descent of the hernia.

At the inspection I was anxious to ascertain, before opening the abdomen, whether the cause of strangulation was discoverable and remediable from the exterior; and I again examined the parts about the internal ring, and passed my finger through it; and although I used more force, and made a more extensive and a rougher examination than would have been warrantable in the living subject,—more vigorous in its degree as I was more reckless of its consequences,—yet I remained ignorant of the existence of the pouch. I could not and did not recognise the walls of the cavity; and indeed, as the long axis of this pouch is in the same line as that of the inguinal canal and ring, it is next to impossible to reach its boundaries with an ordinary finger, furnished with the ordinary joints and means of flexibility which nature has given it. I was subsequently convinced of the extreme difficulty of bringing the point of the finger to bear on the seat of stricture, the axis of which forms nearly a right angle with the internal ring, and is an inch and a half removed from it. I was still impressed with the idea that the obstruction depended on a band of adherent omentum pressing on the intestine within the abdomen, and constituting the third form of strangulation to which I have already alluded, but which I have not yet described. On opening the abdomen I was somewhat confirmed in my prepossession by seeing the omentum suddenly contract itself at the lower part of the belly into a band, which dipped down behind the bowels in the direction towards the internal ring,

and was lost to view, passing over a coil of small intestine and producing a deep indentation on its surface. It was not until the omentum and some folds of bowel had been turned aside, that the adventitious pouch was brought into view, and then the ring of peritoneum constituting the entrance into it was clearly seen, as depicted in the drawings. (Vide Plates III. and IV.) The intestine was by no means firmly embraced by the circle of the opening, and bore no evidence of much constriction. It was rather incarcerated than strangulated, and this I have found to be the case in all the instances of this form of hernia which have come under my observation.

I have thus afforded such an outline of the facts and evidences of this class of hernia as my experience enables me to furnish; and I regret that the more important and practical part of my communication should be most scanty and unsatisfactory. How are we to diagnose these cases, and how to deal with them?

The history of the case, could it be obtained with accuracy, would doubtless throw some light on the nature of the disease. I have already adverted to the probable leading circumstances which are antecedent to the formation of an adventitious pouch within the abdomen; but it is so difficult to obtain an accurate history, there is so seldom a consonance of ideas between the patient and the surgeon as regards the amount of pain, the precise sensations, the duration, the degree and application of force employed on different occasions, and other important matters, that his statement must always be received with due caution, and is likely to be as mischievous as useful, if adopted without reservation and circumspection.

Perhaps some valuable evidence may be obtained from the unusual length of the inguinal canal, as well as the situation and large size of the internal ring; conditions which are at variance with the features which ordinarily characterize an old hernia, and which would tend to draw our attention to the probable or possible existence of some further variety within the abdominal walls, inducing us to push our explorations to the farthest possible point.

I certainly had great reason to regret that I did not pursue my investigation still farther, even to dilating the internal ring. I might then possibly have reached the walls of the pouch, and

found that I was in a circumscribed sac and not in the cavity of the peritoneum; or I might perhaps have obtained a view of the intestine, and, from its congested appearance, have been led to infer that it was the subject of constriction. With such evidence, by drawing the bowel down into the canal, it might have been practicable to bring the real stricture into view, or at any rate to have felt and recognised it by the point of the finger.

In certain cases, where the adventitious pouch is large, as in the first case, I should conceive that some evidence might be obtained of its existence by a careful examination of the inguinal region through the abdominal walls, especially in a thin person.

In concluding this communication I may add one word as to the supposed reduction of the bowel in the last case, under the application of the taxis, on the evening of his admission. There is no doubt in my own mind that a considerable portion of the contents of the hernial sac was returned into the abdomen through the pouch, as the scrotum evidently contained a much greater volume of intestine than was afterwards found in the adventitious cavity. The opening of communication between the pouch and the peritoneal cavity was large enough to allow the gradual recession of the bowel under the pressure exerted on the scrotal sac below; but when this latter was emptied, as no farther pressure could then be brought to bear on the adventitious pouch, its contents remained uninfluenced by the taxis and incarcerated within its walls.

The third class of cases of bowel obstruction connected with a previously existing hernial protrusion depends upon, and is caused by, an old standing irreducible omental hernia; irreducible, either because it has contracted adhesions to the walls of the sac and the margin of the internal ring, or from a gradual accumulation of fat, which renders it too large and bulky to be returnable through the opening whence it came down. It frequently happens that intestine and omentum descend together into a hernial sac; the intestine is returned, but the omentum remains: or a hernia may consist of omentum only, which is always more difficult to reduce than bowel. In either case, as its presence produces no particular symptoms, it is allowed to remain, and the remote danger of the condition which is thus produced is overlooked. The condition is this:

—That the omentum, after passing down the abdomen, becomes contracted into a firm and unyielding cord as it approaches the internal ring, and, entering that aperture, becomes firmly fixed. Thus we have an unnatural band crossing the iliac fossa, and producing a greater or less degree of tension or pressure on the intestines over which it is stretched. The free motion of the intestines are somewhat checked by this band, and, from some accidental circumstance, a coil becomes jammed under it, as it were, and is unable to release itself. This may take place quite independent of any recent hernial protrusion, and is therefore one of the numerous causes of internal abdominal obstructions to which I alluded in the early part of my paper, as not coming within the scope of my observations.

A recent descent of intestine, however, into a hernial sac which is thus connected with irreducible omentum, is of all things most likely to produce the unfortunate condition just alluded to; for the very passage of the bowels through the internal ring would naturally tend to bring that part of the intestine just above the mouth of the sac immediately under the influence of the omental cord. Thus several cases are on record, where, after the reduction of a hernial protrusion, obstruction has been maintained from this cause until it terminated in the death of the patient. Some of these have come under my own observation, where an operation has failed to relieve the patient, as no cause of strangulation could be discovered external to the abdominal cavity.

It would be a loss of time to go over the leading features of an unfortunate case of this kind: their general character amounts simply to this:—A descent of intestine takes place into a hernial sac which has existed for a shorter or longer period of time, and which probably contains adherent omentum. It is reduced after the usual appliances, and with the ordinary degree of force. The symptoms remain; an exploration of the sac and the canal discovers nothing but omentum; the patient continues unrelieved, and dies.

A case of this kind occurred some years ago at Guy's Hospital, the details of which have been published in the *Guy's Hospital Reports*, Vol. I. New Series, p. 177.

The details of the post-mortem examination of a somewhat analogous case will be found in the *Museum of Guy's Hospital*,

illustrated by drawings. (Vide Inspection Book, No. 15, p. 24.) —“A man, aged 67, had for many years been the subject of a large right inguinal hernia. It was generally down, but was reducible. He was admitted Nov. 2, 1838, with symptoms of strangulation. The contents of the sac were easily returned into the abdomen, notwithstanding which, the symptoms continued, and he died of peritonitis on the 23d. On examination, it was found that a firm band of adhesion connected the mesentery of that portion of the ileum which was generally in the scrotum to the upper and inner wall of the hernial sac. A knuckle of intestine had slipped down behind this band, where it became wedged, confined, and strangulated. There was an opening of sloughy ulceration perforating this part of the bowel, through which the contents had passed into the abdominal cavity and given rise to the fatal peritonitis.”

The following case, which occurred recently in my own practice, is also a good example of obstructed intestine from the pressure of an omental band. I was requested by Dr. Elliott, of Camberwell, to see Mr. S. aged 60, to whom he had been summoned a short time previously, and who was suffering from urgent symptoms. It appeared that, three days previously, a quantity of intestine had descended into an old femoral hernial sac, which for a long period had contained irreducible omentum. The symptoms of strangulation had been severe from the commencement; and when I saw him the belly was tense and peritonitis had evidently set in. I divided the stricture and returned the bowel without opening the sac; but although relieved from pain there was no decided improvement in his condition, and he died within forty-eight hours of the operation. The post-mortem inspection presented general peritonitis with abundant effusion of plastic lymph. The intestine which had been contained in the sac had in great measure recovered itself, and the contents had passed freely through it from above. A more decided and permanent obstruction was, however, found a few inches lower down, where the bowel was crossed and firmly compressed by the band of omentum just previous to its entering the internal ring. The condition was evidently one of old standing, and had produced a thickened, contracted, undilatable state of the intestine, leaving an opening which would barely admit the point of the little finger.

At this part of the canal the fluid contents were arrested, and formed a considerable accumulation above it. The previous history of the case explained that this man had for many months suffered from constipation, pain in the belly, and other abdominal symptoms indicative of the local mischief which was discovered after death. The cause of death in this instance must probably be ascribed to the protracted strangulation of the intestine within the hernial sac and the peritonitis thereby induced, rather than to the existence of the omental band; but at the same time it appeared evident that the latter, by its pressure and obstruction, would in all probability have rendered the operation unavailing, even had it been performed at an earlier period.

I shall close this communication with the narration of the two following cases of hernia, which, within the last few months, have come under my care at Guy's Hospital, and which are interesting as presenting a fatal termination, from obstruction within the abdomen after the protruded intestine had been returned.

E. M——, aged 42, was brought to me at Guy's Hospital, by Mr. Turner, of Woolwich, December 3. For many years he had been the subject of a small irreducible inguinal hernia on the left side. It was apparently omental, and gave him no inconvenience; but an additional descent of intestine had frequently taken place into the sac, and had been reduced from time to time with more or less difficulty. On the morning of November the 30th a considerable volume of bowel came down, attended with immediate acute symptoms. The protrusion was returned by Mr. Turner; notwithstanding which, all the severe symptoms of strangulation continued unabated. On his admission he had constant vomiting and hiccough: the belly was neither particularly tumid nor tender. The inguinal canal was of its normal length, and its course was marked out by a fulness, which, to external examination, conveyed the sensation of a portion of omentum, that might be traced from the internal ring into the upper part of the scrotum. It could be pushed upwards towards the abdomen until it was nearly got rid of, but returned as soon as the pressure was relaxed. The urgency of the symptoms left but one course to be pursued—to explore the sac, and seek for a portion of intestine that might possibly still remain strangulated in the neighbourhood of the

internal ring. I accordingly made a free opening into the sac, which was partially overlapped on the outer and fore part by the spermatic cord, and contained nothing but a portion of old adherent omentum. The incision was carried upwards through the inguinal canal, until the internal ring was brought clearly into view. Nothing like intestine could be seen or felt. The ring was large and open, and the finger readily passed through it apparently into the abdominal cavity, where it appeared to come into contact rather with omentum than with bowel: such, at least, was the sensation conveyed to me by touch.

A further examination was prevented by the sudden descent of a considerable quantity of fresh omentum, brought down by the straining and efforts of the patient. This it was found impossible to return into the abdomen. It was therefore excised, some vessels were tied, and the wound was closed. The operation had been unsatisfactory, and the result was fatal. The symptoms of strangulation continued, and the patient died on the morning of December 5.

I much regret that I was unable to obtain a post-mortem examination, and can therefore offer no explanation of this obscure case. In the absence of all proof it would be idle to theorise on the possible or probable causes of obstruction.

CASE 2.

E. H——, aged 73, was brought into Guy's Hospital, May 23d, by Mr. Blaxland, of Camberwell. It appeared that he had been the subject of a small irreducible femoral hernia on the left side for twenty-two years, and had never worn a truss. A slight increase had occasionally taken place in the size of the tumor, but it had never given him any particular inconvenience. On the morning of the 20th he was attacked with the usual symptoms of strangulated hernia, which had continued without intermission up to the time of his admission into the hospital, when the vomiting was incessant and of a stercoraceous character. I had no difficulty in returning the contents of the tumor after having divided the stricture external to the sac, which was thick and indurated. He experienced immediate relief.

May 24. Free from any acute symptoms: the belly somewhat tumid and tense. An injection of senna and salts was

administered, and in the evening his bowels were freely opened. He also vomited once.

May 25. His belly somewhat tympanitic and tender. A second injection brought away some very black fetid motion. Was ordered *mist. magnes. c magnes. sulphat.*, to be given with discretion; generous nourishment and wine.

May 27. Has had no motion, but has passed a great deal of flatus. The tension of the belly has entirely subsided: it is quite soft and free from all tenderness. Is weak and low, but has no other untoward symptom. During the next four days he appeared to be progressing, on the whole, favourably, although his bowels continued exceedingly torpid, and were but scantily relieved by a saline purgative and an injection. Occasionally he suffered distress from distention and pain in the belly; but as often experienced relief by expelling a large quantity of flatus. From the long period during which strangulation had existed previous to the operation, and from his age and debility, I was apprehensive that the bowel had not recovered itself, or that ulceration was slowly taking place, and therefore did not consider it advisable to administer any active aperient.

On June 1, he suddenly sank into a state of collapse accompanied with symptoms of peritonitis, and died early in the morning of June 2.

The following account is extracted from Mr. Birkett's record of the post-mortem examination:—

Abdomen.—The external wound in the left inguinal region had a sloughy appearance. General peritonitis of low form. In some parts the viscera were sticky and slightly adherent. In one or two places the intestines were firmly adherent. A firm connection had become established between a dark coloured portion of the ileum (evidently the part which had been strangulated) and the internal surface of the hernial sac, which had become inverted and slightly drawn up into the abdomen, presenting a discoloured appearance. When this adhesion between the intestine and the sac was destroyed, a minute quantity of pus escaped from between the two surfaces, and the commencement of a process of ulceration, which would doubtless in the course of time have established an artificial anus,

became apparent. The peritoneal surface of the bowel at this spot was of a dark leaden hue, and the corresponding mucous lining was already destroyed. No actual perforation had, however, as yet taken place. From this spot the colour of the bowel, both internal and external, became by degrees normal, as the tunics of the gut were traced in their axis.

On attempting to trace the course of the small intestines, it was found that a portion of the ileum had been drawn under the knuckle of bowel which was adherent to the sac; and that, confined in this situation and unable to right itself, it had become partially twisted upon itself. It is extremely difficult, if not impossible, to express in words the exact abnormal condition of the parts; but I have no doubt, that, from the above cause, a second source of bowel obstruction had become established, subsequent to the operation from which he had received such complete relief. To this second source of obstruction, which was partial, and not complete in its character, must be ascribed the torpid state of the bowels, the increasing difficulty of procuring stools, the occasional distention and tenderness of the belly accompanied with nausea; all which again from time to time had become relieved by the passage of flatus and very small quantities of fæculent matter, until at length peritonitis set in and speedily proved fatal. Had the patient survived a few days longer, it is probable that the perforation of the intestine and sac, which process was in progress at the time of his death, and the formation of an artificial anus might have afforded temporary if not permanent relief.

APPENDIX.

THE following case, which came under my care while the foregoing paper was in the press, presents a remarkable and, I believe, unique example of the unforeseen complications which sometimes accompany strangulated hernia; and I have therefore added it to my communication.

GEORGE G—, aged 30, a farmer's labourer, was sent up to me from Edenbridge in Kent by Mr. W. G. Creasy, and admitted into Luke Ward July 17 at two o'clock P. M.

He had been suffering from strangulated hernia for some days and was in a state of extreme prostration, which precluded a very rigid investigation of his previous history. The following particulars were however recorded by Mr. Satchell, the reporter :

“Ten or twelve years ago he first perceived a swelling in the right groin, for which he consulted a surgeon, who informed him of the nature of the complaint, and enjoined the necessity of constantly wearing a truss. He has, however, notwithstanding the truss, been troubled for some years past by the hernia coming down. On July 13, having applied an old truss with a worn-out spring, he discovered, in the evening, that the swelling had attained a larger size than he had ever previously observed, and applied to a neighbouring practitioner, who found a portion of intestine in the scrotum. A reduction was effected, but the bowel soon resumed its former position ; since which period the contents of the sac have been repeatedly returned, at least apparently so, and have as often descended again into the scrotum. He has had no evacuation since the morning of the 14th ; and the symptoms of strangulation, with some occasional intervals of ease after the use of the taxis, have steadily increased. He vomited after his admission, and complained of great pain in the abdomen and in the right iliac region. No particular tendernes or fullness of the belly.”

On examination, I found the upper part of the scrotum occupied by a hernia, apparently intestine, which protruded between two and three inches through the external ring, by the margin of which it was firmly and immovably grasped. There was a slight degree of fullness in the inguinal canal. As it was evident that all palliative measures were inadmissible, I proceeded to operate as soon as the patient had somewhat rallied under the administration of brandy and water. After cutting through the integuments and fascia, I passed a director under the margin of the external ring, and divided it freely without opening the sac. On making a very moderate pressure, the contents of the sac passed up through the opening and the hernia was apparently reduced. I was not, however, satisfied that the bowel had returned to the abdomen, as the apparent reduction was accompanied with an increased fullness

of the inguinal canal, and there was a tendency to the reproduction of the tumor as soon as the pressure was removed. It seemed evident that there was a second cause of constriction above the external ring, which prevented the complete return of the bowel. I then laid the sac freely open, and brought into view about four inches of small intestine, highly congested, and nearly black. On tracing this upwards with my finger, I found it firmly grasped by the margin of the internal ring, which was very deeply seated, as if it had been pushed up by the frequent operation of taxis beyond its normal position. By introducing the hernia knife along my finger I succeeded in dividing the stricture, and the portion of strangulated bowel was then returned into the abdominal cavity without any difficulty. The man expressed immediate relief and was put to bed, ordered to be kept perfectly quiet and furnished with moderate stimulus from time to time. He continued in a favourable state for about two hours after the operation, when he began to complain of extreme pain in the iliac region, and became extremely restless and excited, so as to be retained with difficulty in his bed. Some calomel and opium was administered, but without producing any beneficial effect. He sank into a state of collapse, and died somewhat suddenly at ten o'clock, seven hours after the operation had been performed.

Post-mortem inspection thirty-seven hours after death.

The body was already in a state of putrefaction, enormously swollen, and everywhere crepitant from gas the result of rapid decomposition. On opening the peritoneal cavity, the portion of bowel which had formed the hernial tumor, and which had been returned into the abdomen at the time of the operation, was readily detected; but the internal ring was still occupied by a portion of small intestine, which passed through it from the abdomen, and disappeared, as it were, mysteriously, without coming down into the hernial sac. On tracing this portion of intestine, it was found to pass through a ruptured opening at the back and upper part of the sac, immediately below and behind the internal ring, and had become lodged between the peritoneum and the fascia iliaca. The mass of bowel which had thus escaped altogether from the serous

cavity measured three feet in length, and occupied a considerable portion of the fossa iliaca, passing over the psoas muscle and overhanging the true pelvis. It was congested, but did not appear to have undergone actual strangulation. There were no positive signs of peritonitis; but the general decomposition which had taken place obscured the precise state of the serous membrane.

I am not aware of any recorded case in which the rupture of a hernial sac has taken place otherwise than from a blow or other violent mechanical injury. In all probability the lesion was produced by the man's own forcible and unscientific efforts to return the intestine, after it had resisted the ordinary means he had been in the habit of employing. This supposition is strengthened by the information I subsequently received from Mr. Creasy, who was kind enough to reply to my inquiries on the subject; and the opening having been once established, it seems most probable, that as fresh portions of intestine descended into the sac they were returned by successive operations of the taxis, not into the abdominal cavity, but through the adventitious aperture, until an accumulation of bowel, measuring three feet in length, had become lodged in the iliac fossa between the fascia iliaca and the peritoneum.

PLATE I.

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This plate represents a general anterior view of the parts referred to in p. 56. The abdominal muscles have been cut off just above Poupart's ligament, to obtain a view of the adventitious pouch within the abdomen. At the lower part of the Plate is seen the upper portion of the hernial sac, and the incision by which it was opened at the time of the operation. Above, or within the abdomen, is the adventitious pouch; and its opening of communication with the peritoneal cavity may be perceived on the inner side (to the left of the Plate), somewhat obscured by the intestine and omentum which are passing through the aperture. The connexion between the pouch and the inguinal canal, at the internal ring, is of course concealed by the peritoneum which lines the abdominal walls and covers the fascia iliaca.

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PLATE II.

Fig. 1. represents the adventitious pouch referred to at p. 56 seen from above. The peritoneum has been stripped off, but still remains connected around the opening of communication with the abdomen, so as to cover and conceal the coil of intestine and omentum which are seen in Plate I.

At the upper part of the Plate may be observed the opening of the internal ring occupied by the neck of the pouch, which passes through it to enter the inguinal canal and become continuous with the hernial sac.

Fig. 2. represents the pouch laid open so as to display its contents, consisting of intestine, omentum, and the testicle which had been returned some years previously to the last fatal attack. The latter may be observed, small and very faintly delineated, above and to the right side of the Drawing.

Fig 2

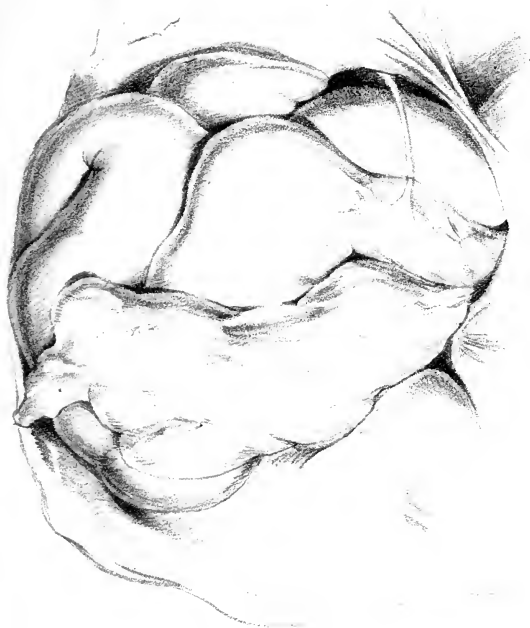


Fig 1

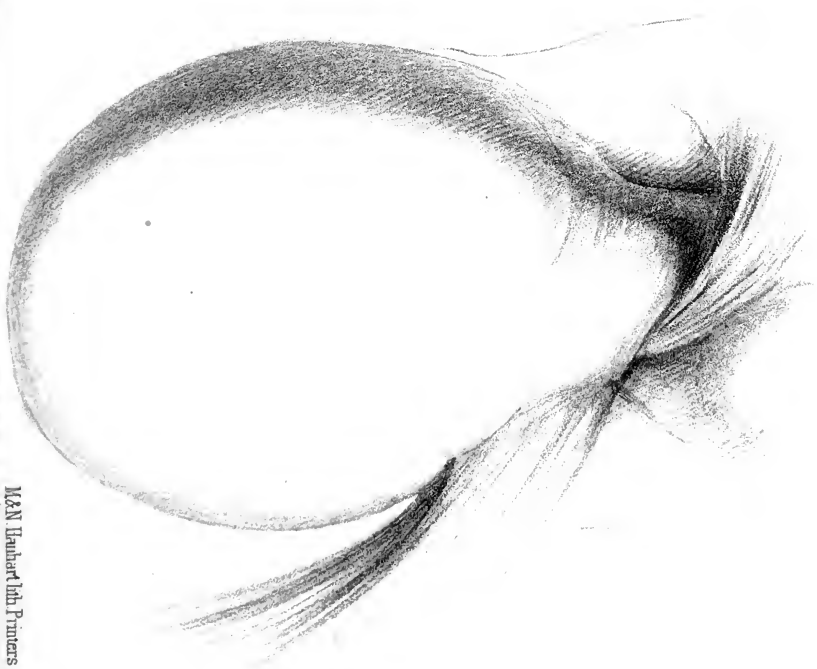




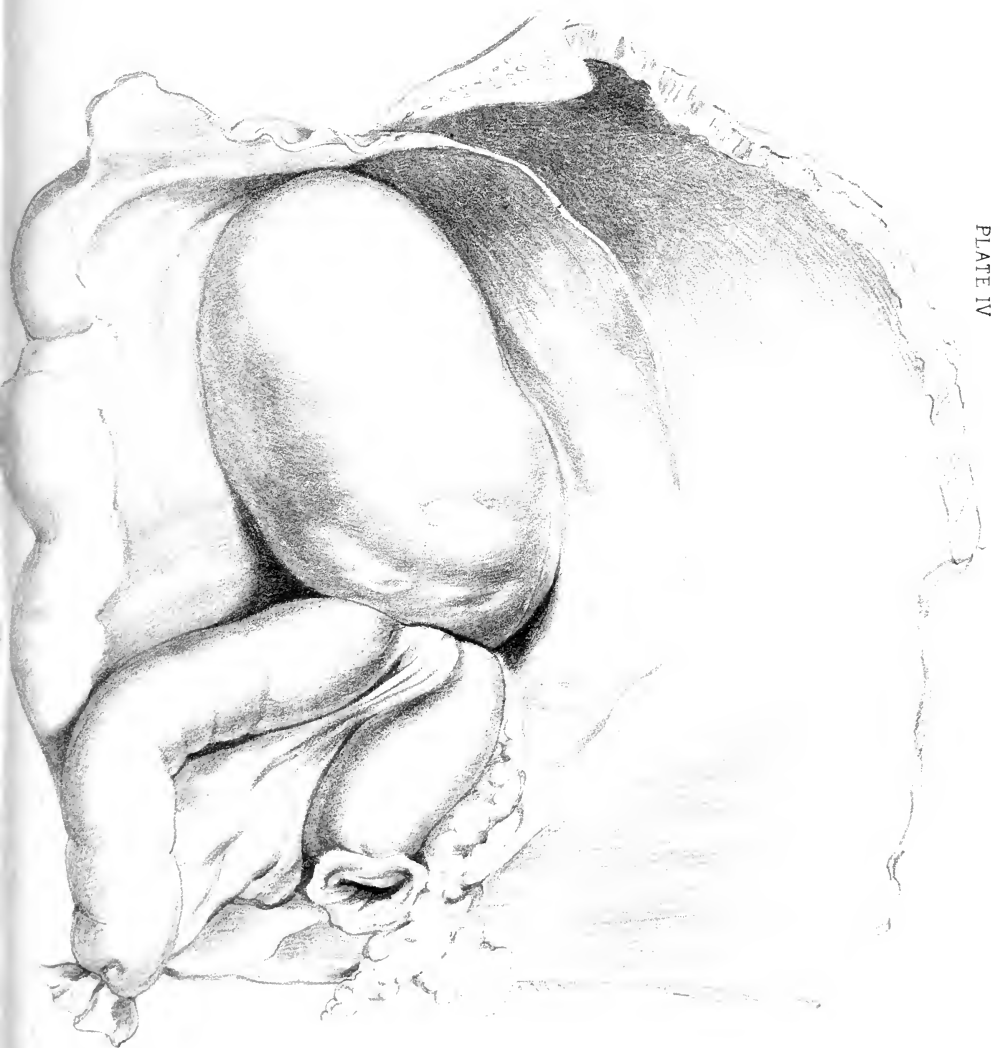
PLATE III.

This plate represents a general anterior view of the parts referred to at p. 59. The hernial sac and the inguinal canal are seen, as laid open by the operation, the omentum having been withdrawn from the sac and turned to one side. The abdominal muscles have been cut off just above Poupart's ligament, so as to bring into view the adventitious pouch, with the intestine and omentum entering it at the opening where it communicates with the peritoneal cavity of the abdomen.



PLATE IV.

This plate represents an internal view of the parts referred to at p. 59 previously to the removal of the anterior abdominal muscles from Poupart's ligament (as shewn in Plate III.) The pouch is covered by the peritoneum lining the abdominal walls, which surrounds it except at the back part where it is in contact with the fascia iliaca. The intestine and omentum are seen entering the pouch, while its connection with the hernial sac at the internal ring may be traced through the peritoneum by which it is covered.



AN ACCOUNT OF THE DISSECTION
OF
TWO ANENCEPHALOUS MONSTROSITIES.

BY ALFRED POLAND.

MANY of the British and Foreign publications abound in such full and elaborate descriptions of anencephalous monsters, that to add another may seem almost superfluous; but in pursuing our present investigation, we have found several further interesting facts, which we deem of sufficient importance to warrant what might otherwise be an unnecessary and irksome detail.

Both were of the anencephalous variety. They were in the possession of Dr. Lever, through whose kindness these dissections were made.

CASE I.

THE first case occurred in the practice of Mr. John Gorham of Tunbridge, from whose account the following is taken.

The parents were about 21 years of age, and healthy, more especially the mother: she had had one fine boy previously, who is now living, and enjoying good health.

The present foetus was born prematurely, and believed to be at the seventh month: it was a breech presentation, and the quantity of liquor amnii was very large, running through the bed and mattress, and deluging the floor.

The mother states, that, when five months advanced in pregnancy, she felt terrified at having to pass through a church-yard in a lonely country place, near which she resides; and says, that although she saw and heard nothing, yet her terror was so great, that she felt her stomach turn over. From that hour she never distinguished any movement of the foetus, although she had constantly done so previously.

The foetus was somewhat smaller than ordinary, but well developed, plump, and abundantly furnished with adipose tissue.

It was of the female sex, and was perfectly well formed, and normal in all parts excepting the head and spine, which cavi-

ties were widely laid open, and changed into a broad expanse and groove, entirely deficient of integument, but covered in by a thin vascular membrane, and possessing no trace whatever of a brain or spinal cord. Together with this, there was a lateral curvature of the spine in the dorsal and lumbar regions, and an anterior curvature in the cervical region, causing the head to be thrown back. The ears were in contact with the shoulders, and the chin with the chest; thus giving the appearance of the head being fused with the shoulders, and entirely obliterating all character of a neck. The eyes were voluminous and prominent, and were situated at the highest part of the head.

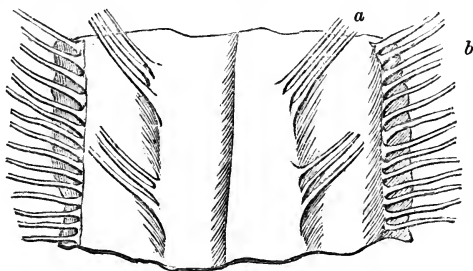
These constitute the essential points of deformity, and are well displayed in the accompanying Plate. (Plate I.)

On more accurately inspecting the peculiarities enumerated, it was found, that not only did the integument not cover the affected cranium and vertebræ, but that it was lost on each side at some distance from the median line, by blending continuously with the reddish membrane that occupied the intervening space; and that at the confines several rows of straggling hairs were developed, commencing near the ear, and terminating at the upper part of the dorsal region.

In the spinal region this red vascular membrane appeared not unlike the structure of a mucous membrane where it is assuming a cuticular form, as seen in disease. It was composed essentially of a similar structure, having an external thin layer of tessellated epithelium cells placed upon an almost equally thin basement membrane, underneath which was found a loose cellular tissue, containing vessels which took a vertical course along its median line. This constituted the whole of the membrane, which was therefore exceedingly thin; so much so, that in parts it was diaphanous on holding it before a bright light: it was connected loosely to the dense fibrous tissue which adhered to the bony parietes of the flattened canal.

No vestige or trace could be discovered of the arachnoid cavity, spinal marrow, or cerebral matter; but the whole of the spinal nerves existed, some of larger calibre than usual, others much smaller. Their disposition was perfectly regular where passing through their several intervertebral foramina; and on tracing them to their central termination, by reflecting back the membrane which covered them from its integumental

attachment, they were all found lost upon the under surface, as shewn in Plate II. The cauda equina formed a beautiful leash of long thin nerves. This membrane was carefully removed



with the nerves adhering to it, and spread out with its under layer uppermost (See Diagram): it then presented an arrangement of two distinct sets of nerves on each side of the median line:—1st, An internal set (*a*), which were placed at distinct and regular intervals, and corresponded with the anterior roots of the spinal nerves; 2dly, An external set (*b*), at a short distance from the first, arising in one uniform line, having no distinct intervals, and corresponding to the posterior roots of the spinal nerves.

The portion of this membrane selected for minute examination was taken from the cervical and dorsal regions, the tissue being in these parts most transparent, and requiring little or no manipulation to disturb the structure, except the removal of the cuticular epithelial scales from the surface. This was laid upon a slip of glass, treated with dilute acetic acid, and placed under the microscope with the different high powers exceeding $\frac{1}{400}$ of an inch in diameter; when was displayed, most distinctly and satisfactorily, the termination of the nerves on this structure. It clearly demonstrated the entire independence of the anterior and posterior sets of nerves: there was no decussation or interchange of fibres whatever: the bundles of nerve-tubes became more and more isolated as they approached their extremities, and then terminated, some in a truncated manner as if broken off, while others, especially at the transparent parts, were found ending in distinct isolated loops, being much more apparent in the anterior than the posterior roots, yet it was satisfactorily observed in both.

A dense fibrous tissue lined the bones of the spine, and was but loosely connected with the foregoing membrane.

The vertebral column was, as usual, made up of a series of vertebræ, their bodies uniting together by means of an intervening substance. From these, transverse processes extended laterally, and formed a very broad, shallow groove, scooped into a slight concave surface, the spinal cavity being entirely obliterated by the absence of spinal arches.

In the cranial region, where the whole of the forehead and vertex was deficient, and where it consisted of nothing else than the base, with the lateral parietes flattened out horizontally, the tissue occupying the space was somewhat similar in structure to that in the spinal region, being made up of an external layer of flattened cuticular cells, and an homologous basement membrane of much greater thickness: the subcutaneous tissues were of a more fibrous structure; the fibres thicker and more densely packed, containing in their meshes an immense number of large vessels and venous sinuses, which gave to the tissue a very vascular organization, and was not unlike that of an erectile structure. Between this and the bone, covering and intimately adhering to the latter, was a dense fibrous tissue, probably a much hypertrophied dura mater. The cerebral nerves emerged from the base of this membrane, and passed to their foramina; but their central termination could in no wise be satisfactorily traced. The olfactory nerves were not found: the second or optic were perfect in their course through the orbit, and ended in their usual nervous expansion: the rest were all distinctly traced to their distribution, and were of natural size. The Gasserian ganglion of the fifth nerve was not found.

The skull consisted only of the base, and was composed of a series of extremely irregular bony elevations and depressions. The condition of the several bones was as follows:—

Frontal bone consisted merely of its orbital plates and superciliary ridges.

Parietal bones entirely wanting.

Occipital bone composed of a central portion, the basilar process, and two lateral laminæ, the jugular processes, which gave attachment to broad pieces of bone, stretching out horizontally, and forming the breadth at that part of the skull.

Temporal bones consisted of highly-developed petrous bones, containing perfect organs of hearing.

Sphenoid bone was made up of a body, divided into an ante-

rior small portion supporting the *alæ minores*, and a larger posterior part surmounted by the posterior clinoid processes. Extending laterally were the *alæ majores*, which consisted merely of their horizontal rami.

Ethmoid bone entirely perfect; as also all the bones of the face.

On viewing the skeleton of this *fœtus* in the cranial and spinal regions, a very great and striking analogy was observed in their mode of construction. The spine consisted of a series of *vertebræ*, each made up of a central and two lateral portions: so in the cranium three distinct *vertebræ* were defined, precisely of similar arrangement, and appeared as if a continuation of them. They were constituted as follows:—

CENTRAL PORTIONS.		LATERAL PORTIONS.
1st	<i>Vertebræ</i> . . . Basilar process of occipital bone.	Jugular processes of occipital bone.
2d	<i>ditto</i> . . . Posterior part of body of sphenoid with posterior clinoid processes.	<i>Alæ majores</i> of sphenoid.
3d	<i>ditto</i> . . . Anterior part of body of sphenoid supporting <i>alæ minores</i> , and ethmoid bone.	Orbital plates of frontal.

The petrous bones seemed to be excluded from any arrangement, and appeared to be highly-developed isolated pieces of bone wedged in between the first and second *vertebræ*.

A thorough dissection of the whole of the *fœtus* was then made: every organ, muscle, nerve, and vessel was investigated, and found perfect and natural. The lungs were small, and had never received air. Heart normal; foramen ovale open, as also the ductus arteriosus. Internal carotid and vertebral arteries of natural size. The sympathetic nerves and ganglia were extremely well developed.

CASE 2.

This case was deficient only in one respect, viz. the absence of a cerebral organ; the spinal cord being fully developed as far as the foramen magnum.

The particulars concerning the birth, &c. have been unfortunately mislaid: however, the following points were observed. The child was born at the full period, the labour was natural and easy, and the discharge of the liquor amnii profuse. The

mother had given birth to healthy children previously. She had never received any blow during pregnancy, neither had she been the subject of any peculiar imaginations. The child was alive previously to birth, but was born dead, having never respired.

This fœtus was immense, very fully developed, and much above the average size of normal children. It was of the female sex, plump, robust, and in apparent full health, with plenty of well-nourished tissues, and abundance of fat.

The only peculiarity was in the head, the appearances of which we will at once proceed to describe. The vertex of the cranium was deficient, and the cranial cavity widely opened throughout the whole extent of its superior parietes; but towards the posterior part of the head, at the occipital bone, immediately above the foramen magnum, it was entire, forming at that spot a complete ring of bone, and thus protecting the spinal cord, which had there just terminated. The place of the brain was occupied by a structure very similar to that described in the foregoing case, but necessarily more highly developed and hypertrophied. It consisted of a firm spongy mass, red and exceedingly thick, containing in its meshes blood and serum, which had transuded, but was easily washed out. This tissue was disposed in two or more large lobes on either side, and contained an abundant supply of large vessels; thus, as it were, appropriating to itself the blood that was destined for the brain. A vertical section was made through it down to the bone, and a thin slice washed and investigated under the microscope, which displayed more precisely its internal arrangement.

We observed, 1st, An external layer of cuticular (epithelial) tessellated cells, placed upon a thin basement membrane; 2dly, Fat disposed in a net-work of areolar tissue; 3dly, A dense fibrous structure, having a longitudinal direction; 4thly, A very loose areolar tissue, consisting of delicate fibres interlacing one another in all directions; 5thly, A very dense and intricate fibrous tissue, probably hypertrophied dura mater, containing innumerable vessels, large venous sinuses, and indistinct, but very doubtful traces of nerve fibres.

All the cerebral nerves were present at the base, and emerged through their several foramina, but were lost centrally in the dense hypertrophied tissue, and defied all attempts to unravel their termination.

The spinal cord ceased superiorly by tapering off to a point near the foramen magnum, and becoming lost in the tissue which intervened between the hypertrophied dura mater with its venous canals, and the cuticular layer with its subcutaneous tissues. The only nerves springing from it were the cervical: its structure was found entirely normal.

Every other part of this foetus was carefully examined, but nothing of any particular interest was observed. The vertebral and carotid vessels were of natural size; the foramen ovale and ductus arteriosus pervious; the lungs were very large, considerably exceeding the standard of those of a healthy foetus at the ninth month, and they sank in water.

The following table of measurement of the bony cranium of the two foetuses is constructed on the plan adopted by M. Geoffroy St. Hilaire, in his elaborate work "Sur les anomalies de l'Organisation."

	CASE 1.	CASE 2.
1. Length of osseous head in median line, from before backwards	2 inch. 1 line.	2 inch. 7 lines.
2. Distance from posterior border of orbit to posterior border of cranium . . .	1 . . 4 . .	1 . . 7 . .
3. Distance from posterior border of orbit to extremity of upper jaw	1 . . 1 . .	1 . . 5 . .
4. Breadth of head in orbitar region . .	1 . . 6 . .	2 . . 1 . .
5. Breadth of head at posterior part of cranium	2 . . 6 . .	2 . . 6 . .
6. Height of head in orbitar region . .	1 . . 1 . .	1 . . 7 . .
7. Height of head at posterior part of cranium	1 . . 0 . .	1 . . 6 . .

On comparing the two cases, we find that all the proportions are much greater in Case 2 than in Case 1, with the exception of the fifth measurement, where they were the same in both.

This is owing, in Case 1, to the expansion outwards of the sides of the occipital bone, increasing the normal transverse diameter at that point; and, in Case 2, to the natural condition of the occipital bone, which formed its arch to complete the foramen magnum, although its superior portion was somewhat deficient.

In the details of these cases we cannot fail to remark some interesting points well worthy of our special attention. These are chiefly—First, the cause of these monstrosities; Secondly, their high degree of developement, notwithstanding such important deficiencies; Thirdly, the termination of the nerves in the spinal region; and Lastly, the highly-developed condition of the nerves.

First, as to the cause. And here, at the outset of our inquiries, we are met by a maze of numberless theories and explanations. It would be useless to attempt to refute, confirm, or even explain the various hypotheses and conclusions put forward by the several anatomists who have investigated the subject: we will merely detail the opinion we hold respecting the cause of the deficiencies in the present cases, and then give an abstract of the several prominent opinions, but more especially those of Breschet, who has thoroughly considered the question in the article "*Anencéphalie*" in the *Dictionnaire de Médecine*,—an account well worthy the perusal of those interested in the subject.

The history accompanying Case 1 might lead a casual observer to attribute the deformity solely to the influence of the mind of the mother; but he will at once retract this opinion, when he finds that the deficiencies present must have existed long before the imagination became involved: that they must have occurred during the early formation of the foetus. However, he may, not without good reason, attribute it still to that cause, by supposing that the foetus at the fifth month possessed an hydrocephalic head, and an immense spina bifida; and that, during the fright of the mother, a sudden muscular force was exerted, rupturing the membranes enclosing this large amount of fluid, and discharging the whole of the contents in the liquor amnii: that this was necessarily attended by a shifting and changing in the position of the foetus, giving rise to that peculiar sensation felt in the abdomen of the mother. He would still further be inclined to adopt this opinion by the fact of the unusual amount of liquor amnii that escaped during the labour.

Notwithstanding these very concise and seemingly explanatory views, we cannot arrive at the same conclusion. Our reasons for the non-adoption of them are based upon physiological deduction. We know very well, that so soon as such tender organs as the spinal cord and brain are formed, immediately they become enclosed in a bony case by the evolution of the bones

of the spine and head; but in the present cases no attempt has been made to form even the slightest trace of a protecting envelope: these bones remain in their primitive condition as a flattened broad expanse, answering merely some of their intended ends by giving support to the bones of the face, chest, and pelvis, and attachment to the various muscles, but devoid of all purpose to form cranial and spinal cavities. Hence we may fairly argue, that, from the arrest of the developement of these bones, there was never formed either a spinal cord or brain. Again, in the investigation of the tissues occupying their place we could not unravel or make out any trace of membranes requisite for the supposition of a previously existing viscus: and also the arrest of developement of the true integument at the extreme lateral margins of the head, &c. at once shew the absence of developement towards the posterior part of the body. We might add other arguments in favour of our views, especially by taking the negative side of the question; but space will not permit us to extend any further remarks on this head.

It appears to us, then, that in Case 1 the brain and spinal cord were never developed at all; and that in Case 2 the brain was never formed: that from some unknown cause the formative germ for the peculiar developement of these important organs was absent; so that although all parts were ready and duly formed for their subservient functions (*viz.* internal carotid, vertebral and spinal vessels of natural size, with large returning venous sinuses), yet was the germ, the organic agent and worker-out of the brain and spinal cord, entirely wanting. The vessels, then, having no appropriation for their intended purpose, distributed their blood to the fibrous and osseous tissues at the base of the skull, where it became elaborated and taken up, causing the hypertrophy observed in them.

The following are some of the many various opinions advanced concerning the cause of these monstrosities.

First, that the cranium and encephalon are duly formed after a regular and normal type, but that their subsequent deficiency is owing to some accidental or secondary circumstance; arising, according to some, as Haller, Sandiford, Rossi, and Siebold, from mechanical agency from without, as blows, &c.; but by others, as Morgagni, Penada, and Klein, attributed to

a mechanical agency from within, as hydrocephalus or encephalocoele.

A second opinion is, that it is a primitive condition—a deficiency or arrest of developement, as adopted in the view above detailed.

Another set of anatomists refer it to the imagination of the mother.

Again, others are of opinion that the primitive cell germ is itself monstrous, which is warmly advocated by Littre, Duvernay, Tyson, Winslow, Van Doeveren, &c.

Meckel says, "Cannot we, without much difficulty, suppose that the progress of developement was the same in the cranium and encephalon, but that when arrived at a certain stage, the formative process has slackened; the cranium, being opened at its upper part, allowed the escape of the brain enclosed in its membranes, which, by some fortuitous circumstance, became ruptured, the contents forced out, and mingled with the liquor amnii?"

This view is not improbable in some cases; for in the Museum at Guy's Hospital there is a preparation, No. 2541²⁵, of an anencephalous fœtus of four months of age, where there is a kind of pouch or bag hanging out at the posterior part of the head, torn and empty, through which, no doubt, the cerebral contents had become evacuated: however, the conformation of the cranium was otherwise natural.

Breschet sums up the whole in these words:—

"We do not attribute anencephalous monsters either to the effect of an imagination of the mother, or to any moral influence, or to violence exercised upon the uterus and its contents, or even to any accidental or fortuitous physical circumstance; nor do we partake of the opinion of those physiologists who ascribe their production, some to hydrocephalus, and others to encephalocoele; but we believe it to be entirely dependent on a slackening or inactiveness of the progressive, organic, vegetative force. We know that organic developement radiates from the abdomen towards the extremities, and that, as the head requires a greater activity of the formative force, and more considerable materials of nutrition, the cephalic extremity of the trunk ought to offer a more frequent imperfect formation than the pelvic extremity. The embryo, considered with regard to the attach-

ment of its umbilical cord, is like the seed from which departs plumule and radicle. Its life is in effect only vegetative, and the influence of the brain and its dependencies do not become appreciated until a much later period. It is from the base to the summit, from the anterior to the posterior part, that the developement of the head takes place : hence the fissures on the anterior part are less frequent than those on the superior and posterior surfaces."

Secondly, as regards the full developement of the anencephalous foetus.—This, in the cases before us, was of marked extent ; and their advanced organization sufficiently indicates the purely vegetative life these beings undergo in utero. The following observations of M. Geoffroy St. Hilaire are worthy of transcribing. (See British and Foreign Medical Review for July 1839.) " In these cases, during intra-uterine life, the malformation does not exert any injurious influence on the developement of the embryo ; these monstrosities, up to the time of birth, are strong and healthy ; but when they are transported into an external world, which is not adapted to their mode of organization, and are obliged to respire atmospheric air by lungs which are not influenced by the action of nervous centres, they languish, and quickly perish. They are doomed to a more or less speedy death, not because their organization is essentially vicious, but because, being only fitted for the conditions of intra-uterine life, they are not capable of supporting a free and independent vitality."

Thirdly, with respect to the central termination of the nerves.—The nerves in these cases seem to consist of an entirely independent system of tubes, like conductors, forming a sort of circle, and only requiring a connection with cerebro-spinal centres of grey nervous substance for their due exercise and function. In by far the majority of the spinal nerves the peripheral termination has been undoubtedly proved to be of a loop-like character ; but the precise mode of their central construction has been but recently investigated, and remains still obscure as to their relation in the spinal cord. Dr. Lonsdale, in his excellent observations published in the *Edinburgh Medical Journal*, Vol. LX., has fully entered upon this very interesting point in physiology, having summed up the various opinions respecting it, and drawn more particular attention to Valentin's views on

the central loop-like termination of these nerves. He himself has actually proved it by dissections and investigations of monstrosities somewhat allied to those which form the subject of the present communication. We have so fully detailed the condition of the central termination of the nerves in the description of the present cases, that we will not recapitulate what has been already stated; but will merely add, that we entirely coincide with Dr. Lonsdale, as evinced by our investigations, in regarding the central termination of the nerves in the spinal cord to be in a loop-like manner.

Lastly, we have to notice the highly-developed condition of the entire system of nerves, notwithstanding the absence of a brain and spinal cord. This fact at once coincides with the views of M. Serres in his work entitled "*Anatomie Comparée du cerveau.*" He writes, "C'est donc en vertu du loi générale de l'organisation, que le système nerveux se développe de la circonférence au centre, que les nerfs du tronc se forment avant la moelle épinière et l'encéphale."—"Les nerfs ne naissent donc point de la moelle épinière et de l'encéphale; isolés de ces parties, ils viennent, par suite de leur marche concentrique, se mettre en rapport avec elles par une insertion d'abord très-superficielle, et qui devient de plus en plus intime à mesure que les faisceaux de ces parties les enlacent et les enveloppent."



PLATE I.

Side view of an Anencephalous Fœtus at the seventh month; illustrating the peculiar conformation of the head, and its relation to the trunk. The developement of the other parts of the body is well displayed.



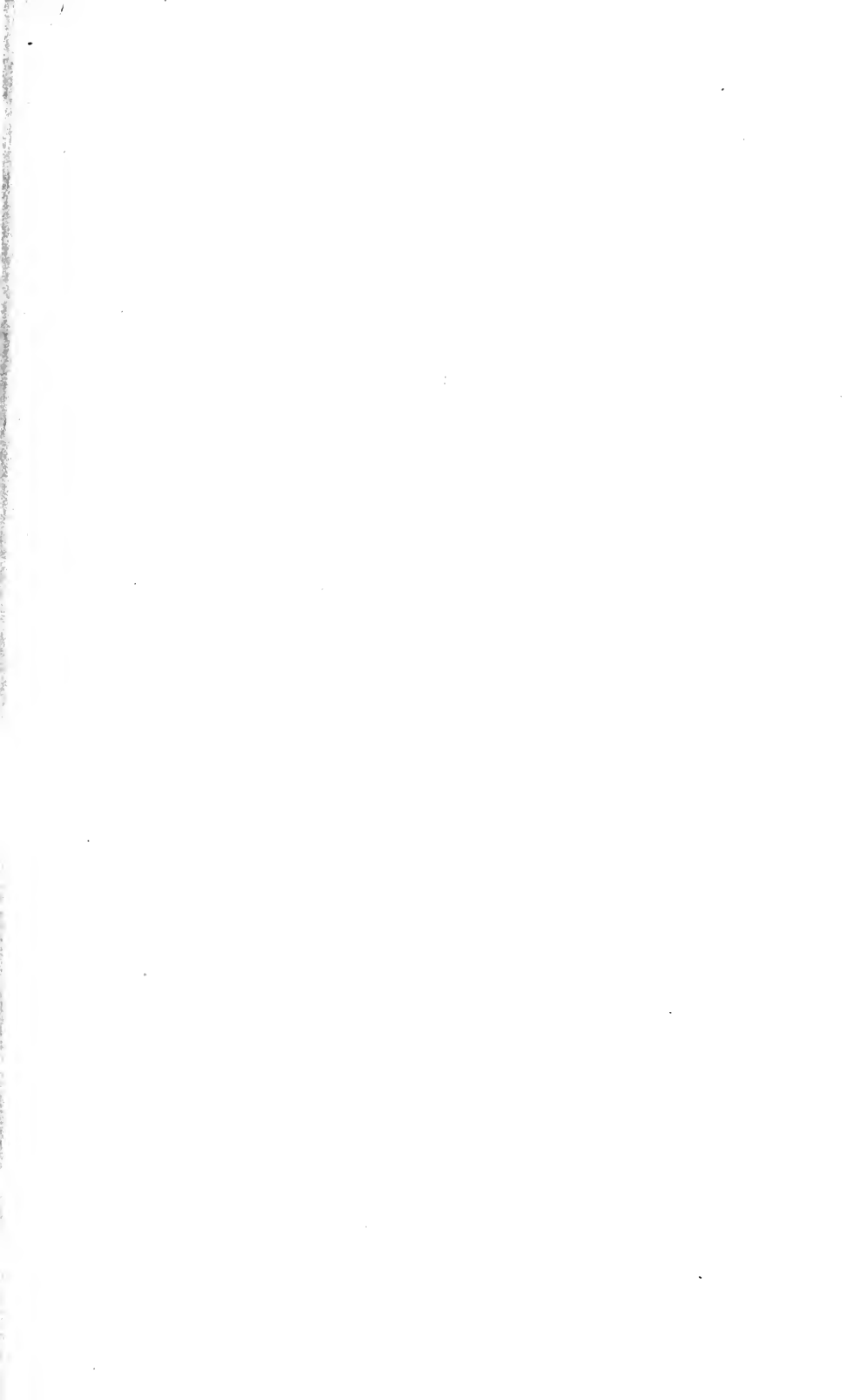
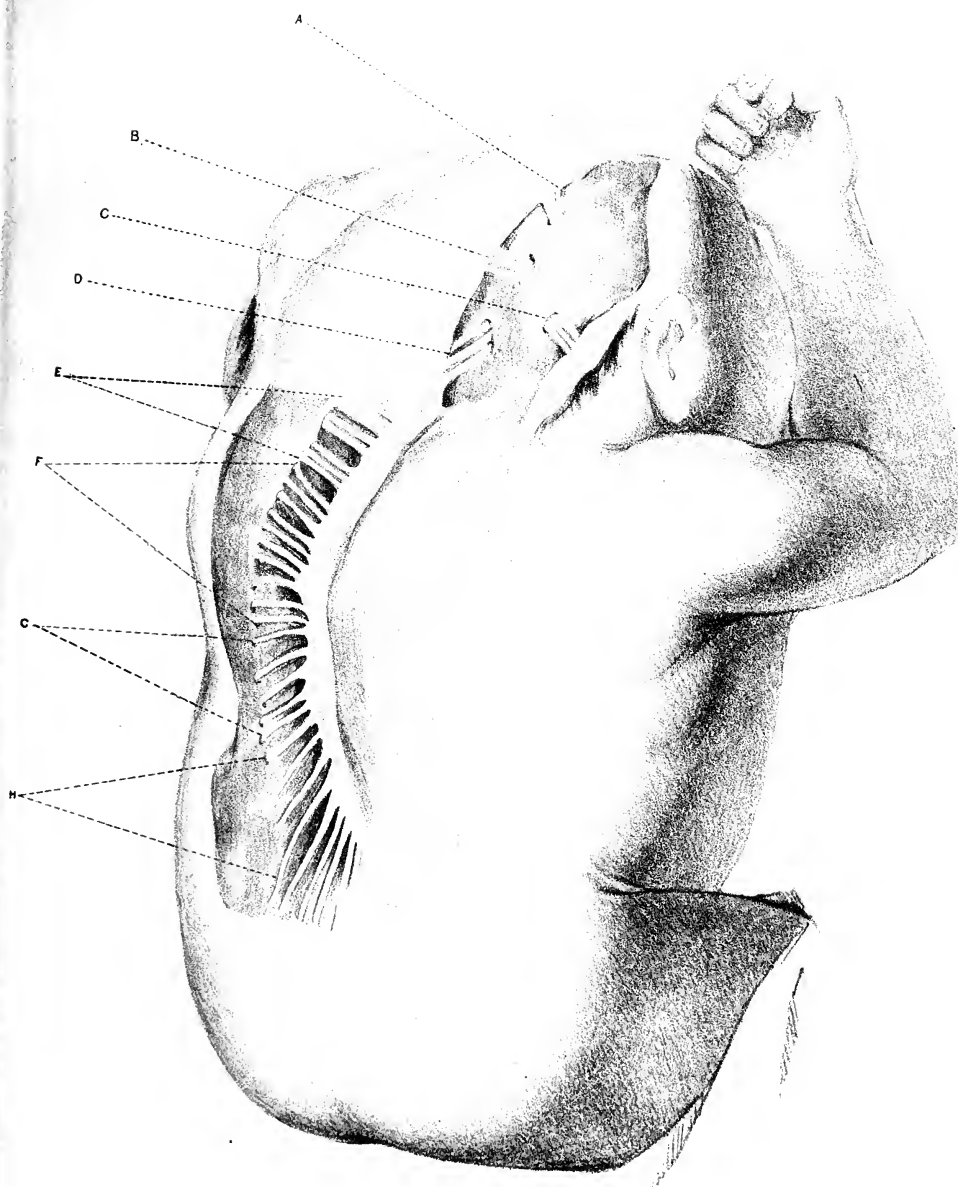


PLATE II.

Posterior view of the same Anencephalous Fœtus. The peculiar membrane, covering in the deficient parts, has been partly removed, and turned on one side; in the cranial region from the right, and in the spinal region from the left side.

- a.* Second, or optic nerve.
- b.* Fifth nerve.
- c.* Seventh nerves.
- d.* Eighth nerves.
- e.* Cervical nerves.
- f.* Dorsal nerves.
- g.* Lumbar nerves.
- h.* Sacral nerves.



TWO CASES OF DISLOCATION;

ONE OF THE HUMERUS INTO THE AXILLA, THE OTHER OF
THE RADIUS FORWARDS AND UPWARDS.

BY JOHN HILTON, F.R.S.

CASE 1.

Case of Dislocation of the right Humerus downwards into the Axilla, reduced with extreme facility; with an account of the dissection of the parts thirteen weeks after the accident.

THE accident occurred by the falling of a load of gravel upon the man whilst at work in a stooping position. When he had been extricated, his left femur and some of his ribs were found to be broken, and his right humerus dislocated downwards into the axilla. The dislocation was reduced with unusual facility, but there was a constant disposition of the humerus to fall again into the axilla from its supposed natural position. Much difficulty was subsequently experienced in maintaining it in its proper direction. It was ultimately accomplished by a large pad in the axilla, with appropriate bandaging. The patient continued in bed until his death, which was owing to disease of his chest; and no opportunity occurred to notice the extent of controul which he might have had over the movements of the shoulder-joint. He died, much exhausted by his disease, thirteen weeks after the accident.

The external form of the joint resembled very much the configuration of a shoulder which has been the subject of ulceration or rupture of the tendon of the long head of the biceps, or what is termed the partial dislocation inwards of the humerus. The fullness and rotundity of the shoulder was much diminished, as compared with that of the opposite side; the acromion and coracoid processes were very distinct; the head of the humerus was elevated to the acromion; the posterior surface of the joint flattened, or concave; but the

humerus was very moveable or loose in its position. The deltoid muscle was much atrophied.

On dividing the attenuated deltoid transversely and re-vertting it, the head of the humerus was immediately brought into view, uncovered by its capsular ligaments, and without its greater tubercle, which had been broken off. On drawing the head of the humerus from the glenoid cavity, the capsular ligament, with the greater tubercle of the humerus attached to it, was found interposed between the articular surfaces of the humerus and the scapula. Two considerable openings existed through this capsular ligament. The upper, somewhat circular in outline, was nearly an inch in diameter, and its edges were much thinned and well-defined: this opening corresponded with the surface of extreme pressure between the humerus and scapula, and was most probably the result of progressive absorption, and may be considered as a part of the reparative process to restore the joint; for had this absorption continued, it is obvious that the head of the humerus and the glenoid cavity of the scapula would have been brought again into complete contact. The lower opening through the capsular ligament was opposite the inferior edge of the glenoid cavity: its dimensions were about the same on the upper one: it was angular in outline: its edges were thickened and irregular, with shreds of fibre attached to it. Through this opening the head of the humerus escaped at the time of the accident.

The greater tubercle of the humerus had become retracted by its muscles with the capsular ligament towards the outer margin of the glenoid cavity, and its exposed surface rendered concave; and thus it became a portion of the hollow into which the head of the humerus had been received since the accident.

The new joint, for so it may be termed, exposed by dividing the deltoid, was formed or bounded immediately by the deltoid, the acromion and coracoid processes of the scapula, the coraco-acromial ligament, the coraco-brachialis and short head of the biceps, a portion of the subscapularis attached below and internal to the smaller tubercle, the external surface of the capsular ligament, and the greater tubercle of the humerus. All these parts were included by a thin new fibro-cellular capsular ligament; and the surfaces contributing

to the formation of the new joint were all smooth and covered, as it were, by a new adventitious synovial membrane, indicating how active nature had been in endeavouring to remedy the effects of the accident.

The tendon of the long head of the biceps had been separated from its origin at the scapula, and divided vertically into two portions: one of these had become fixed to the inner edge of the bicipital groove; the other had acquired an adhesion to the tubercle of the humerus in its new position, and encircled the outer half of the neck of the humerus.

The circumflex nerve was small: it was distinctly lacerated, but its actual condition was changed by some strong cellular adhesions, fixing it with the radio-spiral nerve and the axillary artery to the inner surface of the subscapularis muscle.

These effects of an injury to the shoulder-joint I believe to be very rare. The humerus was retained *in situ*, or rather prevented from falling into the axilla from the scapula by the deltoid, long head of the biceps, coraco-brachialis, and a portion of the subscapularis muscles. The supra and infra-spinatus and the teres minor, having been completely detached from the humerus with the larger tubercle, probably owing to muscular force alone, had no longer any influence over the movements of the joints.

It is interesting to remark, that, notwithstanding the extreme injury which the joints had suffered, the reparative process had commenced: the pressure of the humerus upon the capsular ligament had induced its progressive attenuation and absorption; and it is possible, had this same process been continued, that the whole surface of the glenoid cavity would have become again exposed to the usual extent of contact with the articular surface of the humerus, and so have permitted with ease all the movements of the humerus which the still attached muscles might have been capable of producing. It must be deemed as beyond all probability, that the great tubercle, with its muscles, would ever have become again fixed to the humerus; so that if the patient had survived the accident, the voluntary controul over the joint must of necessity have remained very imperfect.

I am not aware of any local symptoms during life, which

can be deemed characteristic of the precise accident which occurred to this patient. The extreme mobility of the humerus when apparently returned to its natural position; the constant disposition to become displaced, almost by its own weight; and the extreme facility with which the surgeon reduced and reproduced the dislocation, may be considered as the best approximative indications of the nature of the accident presented in this case. I have seen two such cases, but have never before had any opportunity of making an examination after death.

CASE 2.

Dissection of a case of unreduced Dislocation of the Radius forwards and upwards.

THE accident occurred rather more than seven years previously to the death of the patient. He was then about 50 years of age. Many efforts were made, and various means employed, to reduce the dislocation at the time it happened, but without avail.

The external form of the elbow presented the ordinary characteristics of displacement of the radius forwards. The joint could be flexed until the head of the radius impinged upon the anterior surface of the humerus, and extension could be carried to nearly the natural limit. Supination and pronation were limited, but the latter more especially. The head of the radius could be seen and felt in the front of the elbow, and the usual depression existed below the external condyle, where the head of the radius is naturally situated.

On dissecting the skin and fascia from the anterior surface of the elbow, with the hand supinated, the head of the radius, prominent and covered by a thin capsular ligament, was seen between the supinator radii longus to its outside, and the tendon of the biceps, more superficial than natural, to its inner side, with the external cutaneous nerve crossing over its anterior surface: the brachial artery, with its radial and ulnar division, seemed undisturbed on the inner side of the biceps tendon: the recurrent radial artery, of its ordinary calibre, crossed over the tendon of the biceps and the anterior part of the neck of the radius above the supinator radii brevis, which appeared healthy and large: the radio-spiral nerve,

uninjured, was placed to the outer side of the head of the radius, between it and the extensor carpi radialis longior.

All the muscles, excepting the biceps and brachialis anticus, being removed, with the nerves and blood-vessels, the arm presented the appearance figured in Plate II. fig. 1, the references to which will explain the structures exposed. It is only necessary to add, that the anterior part of the head of the radius was much altered in form, and had two vertical grooves upon it, in one of which the tendon of the biceps was resting. The cup-like depression on the top of the radius had disappeared, that part of the bone being nearly flat, deprived of its cartilage, and converted into a smooth porcelain-like surface; whilst that part of the head which had been moving in contact with the articular cartilage of the humerus was still covered by its cartilage, and but slightly impaired. When the radius was rotated, the rotation of the head took place partly upon the external condyle of the humerus, and partly upon the tendon of the brachialis anticus, which was interposed between it and the coronoid process of the ulna: the tendon of the biceps obeyed the movement of the head of the radius. A thin capsular membrane attached to the tendon of the biceps, brachialis anticus, and the anterior portion of the external lateral ligament, closed in the joint.

A further dissection of the parts was made, to shew more accurately the true relation of the bones and ligaments to each other, by taking away the biceps and brachialis anticus. (Vide Plate II. fig. 2.)

The following were the relations of the head of the radius to the humerus during the various movements.

During flexion and extension of the fore-arm the head of the radius rested exclusively upon the external condyle and not upon the coronoid process of the ulna: nearly all the rotatory movements took place independently of the coronoid process of the ulna, and it was only towards the completion of extreme pronation of the radius that any approach to contact between the radius and coronoid process of the ulna became at all manifest, and then only to a very limited extent, scarcely more than a line in breadth. The head of the radius was above and in front of the outer edge of the coronoid

process, but not in contact with it, although, on a superficial examination, it might have been thought to be so.

The coronary ligament was only partially torn; the more external or superficial part of it, that which may be considered as added to the coronary by the external lateral ligament of the elbow, was still entire, extending over, and closely embracing, the neck of the radius. The oblique ligament was not ruptured, nor was there any evidence of mischief having occurred to the inter-osseous ligament, except at the lower portion under the pronator quadratus, where it was partially deficient: but it should be observed, that I have oftentimes seen quite as much of the ligament deficient without the slightest evidence or suspicion of any previous injury.

In this dislocation, not only is the radius placed in a position anterior to its natural relations, but it is also carried upwards; so that in reality it is a dislocation forwards and upwards, and not merely forwards. This elevation of the radius necessarily alters the healthy relative planes of the carpal extremities of these bones; so that, during the existence of this dislocation of the radius, the lower portion of the ulna extends below the level of the radius; whilst in the natural state the articular surface of the radius is the lower. The extent of this descent of the ulna measures, with a certain degree of accuracy, the ascent of the radius upon the external condyle.

The relative descent of the ulna, or rather ascent of the carpal extremity of the radius, changes the relation of the lunar and cuneiform bones, as regards the direction of their articular surfaces and the fibro-cartilage of the inferior radio-ulnar joint; and has, in the instance before me, induced, by the altered direction of the pressure and friction, the partial removal of the articular cartilage from the lunar and cuneiform bones, and a marked alteration in the shape and direction of a part of the articular surface of the lunar bone. There is also a considerable aperture through the fibro-cartilage of the radio-ulnar joint. (Vide Plate II. fig. 2.)

These deviations from the normal position in the upper and lower extremities of the radius, and the consequent new relation of the ulna and carpal bones, give the explanation of the deformity observable in these cases about the wrist-joint.

Knowing that the dislocation of the radius forwards and upwards sometimes baffles the best efforts of the most experienced surgeon, it seemed important to ascertain, if possible, the causes which interfere with the return of the head of the radius into the smaller sigmoid cavity of the ulna.

After all the muscles had been taken away from the arm, I endeavoured, by traction at the hand, to draw the head of the radius below the level of the external condyle, but could not succeed; and the chief impediments to my success were my inability to overcome the tension of that small portion of the inter-osseous ligament (which is elastic) placed at the posterior aspect of the arm, with its fibres directed downwards and outwards from the ulna to the radius; and also, but of less influence, the tension of that portion of the external lateral ligament of the elbow-joint embracing the neck of the radius. (Vide Plate II. fig. 3.)

The supination of the radius became limited by the oblique ligament: the pronation, by the oblique fibre of the inter-osseous ligament before referred to. I may here remark, that the supinator brevis was not all atrophied in this pathological specimen, nor was there any indication of its having been torn; and that, although the radius, by being raised upon the humerus in this dislocation, might be considered as tending to relax or shorten this muscle, yet I think, with its nerve uninjured, as in this example, it would be quite capable of aiding to keep the radius in its displaced position, by drawing it backwards upon the external condyle.

Finding that in the dead arm, with all the muscles taken away, I was yet unable, by pulling at the hand, to reduce the dislocation, I extended the fore-arm, and then placed a fulcrum, in the form of a piece of wood three quarters of an inch in diameter, across the front of the elbow above the head of the radius, where I secured it deeply buried. I then forcibly bent the fore-arm towards the humerus, making my efforts (by pushing) entirely on the posterior part of the ulna alone, without grasping the arm. The fulcrum introduced (of a diameter rather more than equal to the length of the abnormal elevation of the radius) between the head of the radius and the external condyle prevented the radius reaching the condyle, but did not interfere with the complete flexion of the ulna; and by the

time the ulna reached its extreme flexion the head of the radius had resumed its proper position with regard to the external condyle, and so the luxation became reduced. The oblique fibres on the posterior part of the inter-osseous ligament were torn, and also some fibres of the external lateral ligament, but the oblique ligament remained entire.

Previously to performing this experiment upon my preparation, which destroyed it as a pathological specimen, I had come to the conclusion that such a mechanical arrangement might be effective in reducing this kind of dislocation; and some time since a little boy came to the surgery at Guy's with a dislocation of the radius forwards and upwards, and was seen by the dresser, Mr. Henley. We placed a thick cedar pencil across the elbow, above the cup of the radius, and then forcibly bent the ulna to complete flexion: this had the effect of replacing the head of the radius on its proper level with the inferior surface of the external condyle; and then, by pressing the head of the radius backwards, it returned to its normal position by the side of the ulna. The bone subsequently was again displaced, and the patient did not continue in attendance at the hospital.

Although it requires some caution in drawing an inference from this pathological specimen after the lapse of seven years from the accident, especially in reference to the immediate local injury to the soft parts about the joint; yet I think, from the absence of any evidence of injury beyond that adduced in the description of the parts, we may infer that its extent in this dislocation is not so extensive as is usually supposed.

The relative position of the bones in this specimen was precisely that observed in recent dissections of such a dislocation, excepting so far as relates to the head of the radius resting upon the coronoid process of the ulna.

In recent and difficult cases of dislocation of the radius forwards and upwards, when extension cannot be effected I would strongly recommend the employment of the means which were so successful in this case. It is only necessary to extend the arm, and to introduce and forcibly maintain a new fulcrum, about three-quarters of an inch wide, between the head of the radius and the anterior face of the external condyle, and then flex the fore-arm by making the efforts

exclusively upon the ulna, leaving the radius and the hand at liberty. It is obvious, in bending the fore-arm by grasping it, we press the radius against the new fulcrum, and by the same pressure prevent its returning to the level of the inferior surface of the external condyle, which is its normal position, and to which our efforts are intended to be directed.

PLATE I.

1. Head of humerus.
2. Glenoid surface of scapula, seen through the upper opening in the capsular ligament.
3. Bursal cavity under the acromion process of the scapula.
4. Tendon of subscapularis muscle.
5. Aperture in the capsular ligament through which the head of the humerus escaped at the time of the accident.
6. Surface of the greater tubercle of humerus, now rendered concave and smooth.
7. Surface from which the greater tubercle has been broken.
8. Edges of new capsular ligament.
9. Tendon of biceps divided above into two portions.
10. Divisions of biceps tendon.



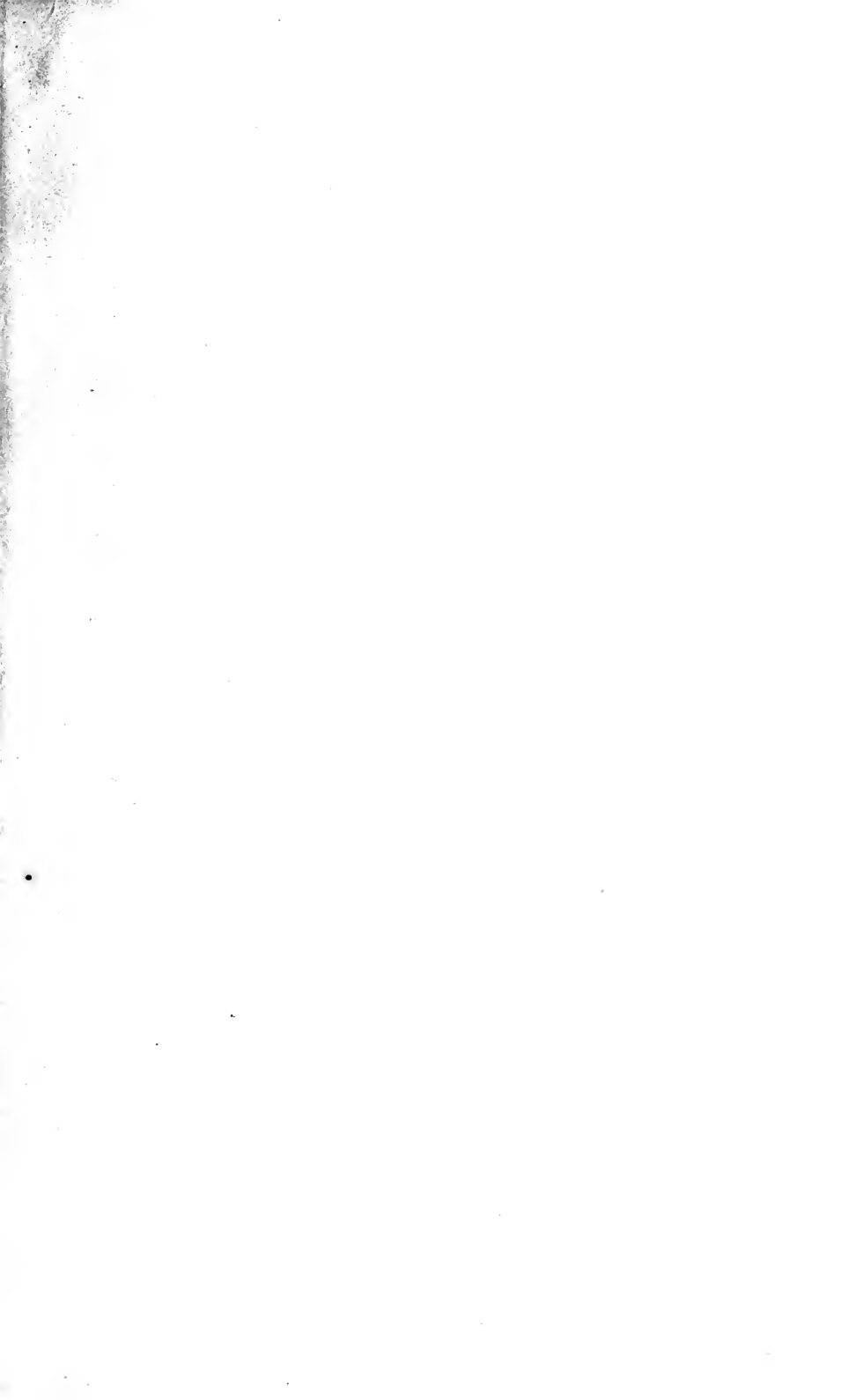


PLATE II.

Fig. 1.

- a.* Left humerus.
- b.* Radius.
- c.* Ulna.
- d.* External condyle of humerus somewhat enlarged.
- e.* Internal condyle of humerus.
- f.* Inter-osseous ligament.
- g.* Head of radius resting upon the external condyle, with a portion of the tendon of the brachialis anticus interposed between it and the coronoid process of the ulna.
- h.* Fossa above the external condyle, into which the head of the radius was received during extreme flexion of the fore-arm: the surface of the bone very hard and smooth, like porcelain.
- i.* Portion of circular ligament which had been torn through.
- k.* Anterior part of the external lateral ligament of the elbow-joint attached to a portion of the true circular ligament embracing the neck of the radius, and tending to retain it in its abnormal position.
- l.* Portion of the capsular membrane completing the shut sac of the joint.

Fig. 2.

- n.* Anterior surface of left humerus.
- o.* Depression above the external condyle, into which the radius was received during extreme flexion.
- p.* Internal lateral ligament.
- q.* Portion of the external lateral ligament attached to the coronary ligament, and encircling the anterior half of the neck of the radius.
- r.* Portion of the coronary ligament which had been torn through.
- s.* A part of the tendon of the brachialis anticus lying between the head of the radius and the coronoid process of the ulna.
- t.* Oblique ligament.
- u.* Inferior articular surface of the ulna.
- v.* Anterior edge of the fibro-cartilage between the ulna and the lunar bone of the carpus.
- w.* Parts of the articular surfaces of the lunar and cuneiform bones deprived of articular cartilage.
- x.* Scaphoid bone.
- y.* Anterior surface of inter-osseous ligament

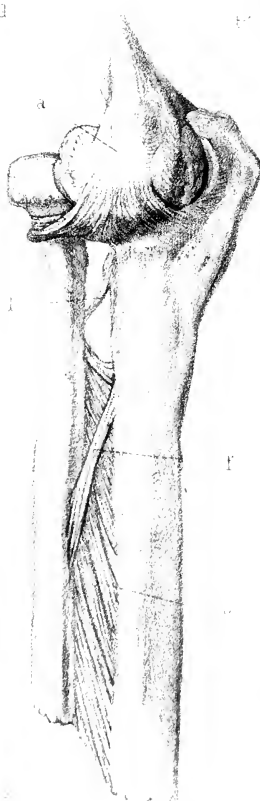
Fig. 3.

- a.* External condyle.
- b.* Head of radius.
- c.* Portion of the external lateral ligament of elbow-joint joining the coronary ligament.
- d.* Posterior aspect of oblique ligament.
- e.* Posterior surface of the inter osseous ligament.
- f.* Portion of the inter-osseous ligament, with its fibres passing from above to below, and from ulna to radius.

Fig. 1



Fig. 3



A

RARE CASE IN MIDWIFERY.

BY DR. OLDHAM.

I WAS requested to see Mrs. C—, residing in Hoxton, on Monday, June 30th, 1845, in consultation with Mr. Amsden, her usual medical attendant, to whom I am indebted for the particulars of the following history. She was 41 years of age, and was married at 19. A year after marriage she was confined prematurely of a seven-months female child; after which she aborted twice. She then again went seven months with a female child, and both these children lived. A series of miscarriages, which she stated to be twenty in number, followed this labour. When 32 years of age she was delivered of a seven-months boy, who lived nine months; after which she again miscarried. Four years ago she went her full time with a boy, who is now living. Mr. Amsden was engaged to attend her in June 1845, and on the 26th of June he was sent for, and was informed that, on moving from the bed and attempting to go down stairs, she was seized with flooding, which was said to amount to a quart. She was put into bed, and when Mr. Amsden saw her the flooding had ceased. She was free from active pain; and on making a vaginal examination, the os uteri was closed, and there was no appearance of labour. The following morning Mr. Amsden was again summoned to her in haste, but the uterus was not contracting; the os uteri remained undilated; and she appeared much as before. She said that she had had two pains, which had induced her to send for him.

When I saw her, June 30th, 1845, she complained of diffused tenderness over the abdomen, which was increased by moving or shifting her position: still she bore an abdominal examination without much shrinking. There was no sickness, nor rigor, nor febrile symptoms. The abdomen was evenly

distended, and had the ordinary feel of a uterus at the ninth month. On making a vaginal examination, the uterus was found well within reach ; the anterior segment round, large, and extended by the foetal head ; the cervix, which was rather high, was proportionately shortened ; the os uteri readily admitted the finger ; and the foetal head, covered by the membranes, could be felt : there was no undue heat, sensibility, or dryness about these parts. The patient drew my attention to the mammae, which had become swollen and hard ; and, on examining them, they had all the appearance of the breasts at the third day after delivery, and milk could be freely expressed from them. When first I heard the history of this case, I fully anticipated that there was an extra-uterine conception, which the last-mentioned symptom tended to confirm ; but on again carefully examining the abdomen, there could be no doubt but that the uterus was gravid, and, as far as could be ascertained, normally developed. By auscultation, neither the foetal heart, uterine sound, nor active foetal movement, could be detected ; and the death of the foetus was hence inferred.

She was ordered some saline medicine, with calomel and Dover's powder at night. The abdomen was fomented, and then covered with a large poultice : the breasts were ordered to be emptied by sucking. It was determined that the uterus should not be excited, but that labour should be waited for.

July 12: I again saw this patient, and found that two days after my former visit a foetid coloured discharge came from the vagina, with occasional puffs of gas, which had continued up to the present time. The discharge is now very dark and foetid. She is much weaker, and looks thin and anxious ; pulse quick ; face flushed ; tongue furred. The abdomen is not so large, but harder ; and the parts of the foetus can be distinguished. The os uteri was lower down, and more yielding, admitting two fingers within it, and the head bones of a decomposing foetus could be felt. There had been no uterine action. Our efforts were now directed to empty the womb. At first, a decoction of the ergot of rye, with subborate of soda, and occasional friction over the abdomen, were fully tried, but without the slightest effect on the uterus. I then attempted artificially to dilate the womb, with the two-fold object of

endeavouring to excite uterine action by pressure on the cervix, and to enlarge the orifice itself. I found, however, that although two fingers could be passed into the os, I could not possibly dilate the cervix to any further extent: its tissue seemed, when thus stretched, to be dead and unyielding. Galvanism was then resorted to, and was applied for more than half an hour, over the external surface of the abdomen, in an oblique and vertical direction; and then the shocks were directed through the uterus, one of the conductors being placed within the vagina, on the cervix of the womb, and the other externally, near the umbilicus. She bore the shocks without much complaint, but the uterus remained perfectly passive. A great deal of decomposing matter and gas were released from the womb by passing a small hook through the os and breaking up the brain, and injecting a stream of warm water within the cavity, which was frequently repeated. On the 17th of July, on making an examination, I found that I could catch between the tips of my fingers a portion of loose skin, which I took to be the detached scalp, and after a little management I removed it. I found that it was the placenta, with the umbilical cord, in a loose and putrid state. During this time a constant discharge of an olive-coloured fluid was going on, and the abdominal tumor was sensibly diminished. With this shrinking of the womb the cranial bones, which had always been felt at the os, seemed to be removed, and I found I could touch the fingers of one hand. I caught one of them with a pair of dressing forceps, and contrived to draw the arm into the vagina. This afforded me a firm hold, and I endeavoured, by steady yet firm traction, to dilate the os; but I found that it was quite impracticable, and I felt persuaded that the uterus would give way rather than yield. The arm was afterwards cut off. At subsequent visits, portions of the foetus were carefully removed with a pair of dressing forceps; the bones loosened, and were easily detached; and in this way the ribs, the greater part of the spine, and some bones of the other arm were drawn through the os uteri. The abdomen daily diminished in size, the discharge lost its foetor, and became puriform. During this time her powers were kept up by ammonia and bark, with small sustaining doses of opium. She took nourishment pretty well, and, with

these encouraging symptoms, I hoped that ultimately the foetus would be entirely removed, and that she would recover. Towards the end of September, however, she appeared much emaciated and very feeble; the abdomen was tender, and she complained of severe pain in passing water. The size of the abdominal tumor was reduced to that of an orange, and it was noticed that it had become harder, more compact, more defined, and that it was to be felt close behind the abdominal parietes. I expressed my conviction that the uterine wall had ulcerated through, just as an extra-uterine cyst would do, and that the foetal bones had escaped into the lower part of the abdominal cavity; and that probably, from the extreme pain in passing water, the bladder was being implicated. She now began to sink rapidly; there was frequent vomiting; and she died on the 26th of September, three months from the time when labour should have come on.

Permission was given to examine the abdomen, which I did on the following day, in company with Mr. Amsden and Mr. Cleveland.

The body was much emaciated; but there was a layer of fat on the abdominal walls which remained unabsorbed. The small intestines were distended with flatus; and here and there were some delicate flakes of recently-formed lymph, with a sparing quantity of serum. The abdominal viscera generally were healthy. On dividing the central line of the abdomen below the umbilicus, a cyst was opened, which contained a number of bones, closely set together, with a quantity of thick, dark-coloured putrilage. This cyst, with the pelvic viscera, were removed for further examination.

The cyst, which accurately covered the mass of bones, was formed in front by the lower part of the abdominal walls and the bladder: it was covered in above by the small intestines and omentum, which had adhered together, but so feebly that they were readily separated; whilst the back part of the cyst was formed by the posterior wall of the cavity of the uterus. The uterus itself was reduced, when measured behind, to about four inches in length. The body was bent back, and muffled by false membranes, and the os uteri was large enough to admit the forefinger. The whole of the anterior wall of the uterus was absent, leaving only the front lip of the cervix to

complete the os uteri; and thus the mouth of the womb formed the outlet of the sac, which contained the bones. The bladder was so thinned in one part, as to be quite translucent, and all but perforated. The left ovary was healthy, but the appendages on the right side were so matted together, as to prevent their being separated. The bones, which were those of a full-grown foetus, were taken out and dried: they were quite clear of soft parts, and formed a dense, compact, oval body.

REMARKS.

The foregoing case is one of great rarity in midwifery. It appears to have been an instance where a female carries a child in the womb to the full period of gestation; but the process of labour is literally missed, and lactation follows on the completion of gestation. The womb then remains passive, and incapable of being excited to act. It holds the foetus as an extra-uterine cyst does, shrinking, however, gradually with the lessening of its contents. The anterior wall of the womb then ulcerates, and portions of the foetal bones, having escaped into the peritoneal cavity, seek an egress through the nearest hollow organ—the bladder—and the patient sinks before the process is accomplished. Cases resembling this, in its principal feature of labour being missed, have been recorded. The case related by Dr. Cheston, in the Fifth Volume of the Medico-Chirurgical Transactions, is to the purpose. He speaks of it, as “perfectly unique and unparalleled in the records of our art.” “It exhibits a foetus,” he says, “after arriving in the uterus from the seat of its original formation, remaining nine months, and acquiring the full size in that organ, on the point of being expelled from its cavity by the process of parturition, when it escapes in an almost incomprehensible manner from the uterus, and becomes surrounded by a bony covering, in which it is found, at the end of fifty-two years, almost as perfect in its form as we should have expected to find it if it had been born at the natural period of utero-gestation.” Voigtel speaks of an embryo remaining forty years in the womb;* and instances of foetal bones being retained in the uterine cavity are recorded. Dr. Simpson, of

* Burdach.

Edinburgh, who, chancing to be in London at the time, saw my patient with me, told me that he believed that the same thing happened in the lower animals, and that from labour not supervening, or being completed, foetuses were retained within the womb. I have not been fortunate enough to find any example of this accident in the sheep or cow, although I have examined a very large number of the uteri of these animals, especially the former.

There is much general resemblance between the case I have related and a variety of extra-uterine foetation; and I am quite disposed to give a general assent to the opinion of Dr. Ramsbotham on this subject:—"I am pretty well persuaded," he says,* "that those cases on record, in which it is supposed that a foetus lay for an indefinite period in utero, without being expelled, or that it had died in the womb, and had made its way in time outwardly by ulceration, were indeed instances of different varieties of extra-uterine gestation."

My first impression on hearing what had occurred in this case was, that it was one of extra-uterine gestation. The symptoms were much like those which mark the imperfect labour which comes on at term in those cases, followed by the distention of the mammæ. But a careful examination of the abdomen, and by the vagina, clearly made out the fact, that the child was *within the womb*, which was developed as in ordinary gestation. The structures which were interposed between the abdominal parietes and the foetus, as felt through the abdomen, were obviously more than the abdominal walls themselves; and the tumor had the same yielding, impressible feel as the gravid womb normally developed. The vaginal examination, however, was quite conclusive as to the position of the foetus; for not only was the cervix obliterated, and its tissue large and loose, and the anterior segment round and prominent; but the os uteri readily admitted the finger, and the foetal head, covered by its membranes, was plainly felt, and during the three months this patient lived, the foetal bones were always present at the os uteri.

There is a question connected with this case which is very difficult to answer. What was the primary lesion which thus paralyzed the womb, and destroyed the forces of parturition?

* Obstetric Medicine and Surgery. Second Edition, p. 657.

There is nothing in the history of the case, or in the appearances after death, satisfactorily to account for it. "Dans l'espèce humaine," says Burdach,* "l'accouchement n'a pas lieu lorsque l'individualité de la vie maternelle est trop impuissante et la matrice trop inerte, ou quand il existe un obstacle mécanique, qui consiste soit dans la situation de l'embryon, soit dans l'étroitesse absolue ou relative des voies génitales; tel est principalement le cas où l'embryon se trouve hors de la matrice, soit qu'il ait pénétré dans la cavité abdominale par une déchirure des parois de cet organe pendant l'accouchement, soit qu'il ait pris son développement dans l'ovaire, dans l'oviducte, ou dans le sac du péritoine." Of these different causes, perhaps the most probable, in this case, was some rupture of the anterior wall of the uterus on the first access of pain, which was immediately followed by hæmorrhage, and subsequently by an entire loss of contractile power. There cannot, however, be said to be any proof of this; and the trifling symptoms, both local and general, which followed, are hardly in keeping with so grave and serious a lesion.

The treatment in this case was very much of an expectant kind, and varied with the change of circumstances. We hoped for some time, notwithstanding the active state of the mammæ, that the uterus would spontaneously expel the fœtus; and at first our treatment was directed to relieve the abdominal tenderness, which speedily subsided under some diaphoretics, and warm poultices and fomentations. When, however, the fœtus decomposed, and there was no appearance of labour-pain, every effort was used to excite uterine action. The ergot of rye, with subborate of soda was freely employed, but without effect. The pulse did not lessen in frequency under its action, but sickness was produced by it. Friction over the abdomen was tried, but without effect: galvanism, although used continuously for half-an-hour, did not appreciably increase the tonic contraction of the womb, and failed to rouse it to active pain. I tried artificial dilatation in two ways; first, by the introduction of two fingers within the os in an attempt gradually to open it; and then, with far greater power,

* Translation, by Jourdan. Tome IV. p. 186.

by drawing the fœtus down upon the os, having the arm as a purchase; but I soon became convinced that any efforts I could employ for this purpose would be fruitless, and that the uterus would give way sooner than dilate.

Two methods for emptying the womb now presented themselves; either to open the os uteri freely by incision, or gradually to withdraw the bones through the os. By this time the volume of the womb was much diminished, and the structure of the cervix had become harder and more rigid, and the os uteri itself had contracted. It was determined to adopt the latter plan, and, by watching the progress of the case, to avail ourselves of any indications for further relief which might appear. Portions of the fœtus were removed, bit by bit, through the os, the bones being sometimes disengaged with much difficulty, care being taken to guard the cervix against laceration; and we hoped that eventually the entire fœtus might be removed. In this, however, we were disappointed. Her appetite, which for some time was well sustained, began to fail; daily discharges of pus exhausted her strength; vomiting and hectic flushes and sweats came on, under which she sank.

REPORT OF THE CLINICAL SOCIETY,

FROM MARCH 1846 TO APRIL 1847.

PART I.

MEDICAL DIVISION, BY ROBERT FINCH, M.D.

THE Medical Division of the Report which we now present contains the results of 466 cases, reported by the pupils of Guy's Hospital during the two preceding half-years.

The principal value of the Report depends on the analytical tables, since the space assigned us will not allow the individual mention of the cases. A few remarks have been appended to each subdivision, either for the purpose of directing attention to the more interesting cases, or in further explanation of the tables.

In order to facilitate comparison between the tables of the present and those of the three last annual reports, it has been deemed advisable to make as little alteration as possible in the system of arrangement, which is, in most respects, identical with that previously adopted.

We have added, as usual, to the tables the per-centage of the results. In so doing, our chief object has been to make complete the General Table ; for in many of the subdivisions the cases are not sufficiently numerous to allow of any accurate deduction.

We now submit the General Table of Results.

GENERAL TABLE OF RESULTS OF MEDICAL CASES.

PRIMARY DIVISIONS.	Cured.			Relieved.			Unrelieved.			Dead.			Total.		GENERAL TOTAL.	Per Centage.
	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.		
Diseases of the																
A. Brain and Nervous System	5	17	38.59	9	13	38.59	5	2	12.28	4	2	10.52	23	34	57	12.231
B. Lungs and Appendages	27	13	37.73	17	9	24.52	2	2	3.77	27	9	33.96	73	33	106	22.746
C. Organs of Circulation.	13	7	30.76	10	11	32.3	4	..	6.15	11	9	30.76	38	27	65	13.948
D. Organs of Digestion	15	15	50.	8	6	23.33	2	..	3.33	7	7	23.33	32	28	60	12.875
E. Integuments	5	9	93.33	1	..	6.66	..	..	..	..	..	..	6	9	15	3.218
F. Lymphatic System.....	..	1	33.33	..	1	33.33	..	..	..	..	1	33.33	..	3	3	.643
G. Urino-Genital System	3	16	43.18	4	9	29.54	1	2	6.81	7	2	20.45	15	29	44	9.442
H. Fibrous Tissnes.....	12	10	62.85	10	..	28.56	1	..	2.85	..	2	5.71	23	12	35	7.484
I. Eye .....	..	2	100.	..	..	..	..	..	..	..	..	..	..	2	2	.428
K. Fevers	38	26	85.33	2	3	6.66	..	..	..	4	2	8.	44	31	75	16.094
L. Poisons.....	2	1	75.	1	..	25.	..	..	..	..	..	..	3	1	4	.858
Total Results of Males and Females	120	117	..	62	52	..	15	6	..	60	34	..	257	209	466	
Total Results	237			114			21			94			466			
Per Centage	50.858			24.463			4.506			20.171			99.998			

(A.) DISEASES OF THE BRAIN AND NERVOUS SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Congestion and Inflammation	3	1	..	1	1	..	2	..	6	2	8
Mania .....	..	..	..	..	1	..	..	..	1	..	1
Apoplexy and Paralysis....	1	2	4	4	1	..	2	1	8	7	15
Spasmodic Diseases:											
Epilepsy .....	..	2	1	1	1	2	..	..	2	5	7
Chorea.....	1	4	1	1	..	..	..	..	2	5	7
Hysteria ....	..	8	..	2	..	..	..	..	..	10	10
Neuralgia .....	..	..	3	2	1	..	..	..	4	2	6
Spinal Disease .....	..	..	..	2	..	..	..	1	..	3	3
Total Results of Males & Fem.	5	17	9	13	5	2	4	2	23	34	57
Total Results	22		22		7		6		57		
Per Centage	38.59		38.59		12.28		10.52		99.98		

Two cases of delirium tremens, both of some interest, are comprised under this division. The first occurred in a hard drinker, who for some weeks had been out of employ, and had abstained from the use of liquors. It was successfully treated by opiate enemata and porter, the patient refusing to take medicines by the mouth.

The second case was fatal. Here there was some history of a previous blow. It was characterized, in addition to the general tremor, by great sullenness and obstinacy. There was considerable congestion of the conjunctivæ and face, with dilatation of both pupils, the pulse being weak and soft, 130 in the minute, and the skin acting freely. Death took place three weeks after admission. On inspection, the brain and its membranes were found congested, the ventricles distended with fluid,

and the pia mater interspersed with albuminous deposits. The subject of this case was a cellarman, aged 37.

The case of mania had existed for five years, in a boy aged 9. The principal symptoms were fits of an epileptic character, melancholy alternating with raving delirium, dancing, &c. He remained under treatment only ten days, and left unrelieved.

Under apoplexy and paralysis we find a fatal case of hemiplegia, commencing with epileptic fits. There was total loss of motion on the right side, sensation being perfect, and the intellectual powers unimpaired. It was treated by mild mercurials and local depletion. On examining the brain after death, a cancerous tumor was found just above the level of the left lateral ventricle.

A case of hemiplegia on the right side, implicating both sensation and motion, occurred, without any assignable cause, in a tanner, aged 32. It was treated by galvanism. Two blisters having been applied to the arm, one over the insertion of the deltoid, the other at the posterior part of the wrist-joint, a zinc plate, with a copper wire attached, was placed on the upper denuded surface, and a plate of silver over the lower: on the wires being connected, a tingling sensation was produced. In a short time the upper sore was coated with a layer of lymph. At the end of a week the apparatus was removed: the lower sore had healed; while a slough, about the size of a half-crown piece, occupied the upper, or zinc sore. The slough soon separated, and left healthy granulations. The patient left the hospital, having regained the use of his arm.

The cases of epilepsy were treated by electricity, counter-irritation, and the mineral tonics.

The ages of the patients with chorea varied from 9 to 22 years. Of these, three were attributable to fright, and all had had previous attacks; one was consequent on rheumatism, and was complicated with cardiac sounds; and in one the cause was unknown. These were treated by free purgatives and the administration of the sulphate of zinc. Two cases, occurring in females in whom the catamenial function was irregular, were cured by ferruginous tonics and purgatives.

The fatal case of spinal disease was complicated with continued fever. The urine was albuminous, and the liver enlarged.

There was much difficulty in deglutition; and the patient died suddenly during a meal. The case was not inspected.

(B.) DISEASES OF THE LUNGS AND APPENDAGES.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Catarrh	3	2	..	..	..	..	..	..	3	2	5
Laryngitis .....	..	1	1	..	..	..	..	..	1	1	2
Bronchitis and Emphysema	12	6	3	1	..	1	8	3	23	11	34
Pleuritis and Pneumonia ..	11	3	7	..	..	..	6	2	24	5	29
Pneumothorax.....	..	..	..	..	..	..	1	..	1	..	1
Phthisis	1	1	6	8	2	1	12	4	21	14	35
Total Results of Males & Fem.	27	13	17	9	2	2	27	9	73	33	106
Total Results....	40		26		4		36		106		
Per Centage	37.73		24.52		3.77		33.96		99.98		

The fatal cases in the above table more than average those of the corresponding table in the three last annual reports. Of the thirty-four cases of bronchitis and emphysema, about one-third were fatal; of the twenty-nine of pleuritis and pneumonia, more than one-fourth; while of phthisis nearly one-half were fatal. In the latter disease, besides hæmoptysis and other thoracic complications, the following were noticed, viz. diarrhœa, dyspepsia, albuminuria, and, in one case, fistula in ano. We find five inspections recorded: in three were observed ulcerated intestines, and in two, fatty liver. Two cases were relieved by a seton passed under the pectoral muscle. The case of pneumothorax occurred in a phthisical subject, thirty years of age. He had been unwell two months, and died a fortnight after admission. On necropsy, the lungs were studded with tubercles. There were cavities in both apices, and on the right side an oval opening was found, con-

necting a large vomica with the pleural sac: there were also indications of recent pericarditis.

Three cases of pleuritis were accompanied with albuminuria, the patients having been ill respectively seven, eight, and nine days prior to admission. They remained in the hospital from three to five weeks, and were effectually treated by cupping, antimony, and calomel.

Paracentesis thoracis was used in a case of pleuritic effusion on the left side: the patient was discharged cured, four weeks after the operation. He complained only of urgent dyspnœa, but never, throughout the whole course of the disease, of pain. The case of laryngitis, reported as cured, was supposed to be of syphilitic origin. It was treated by mild mercurials, with leeches and iodine externally: an abscess, however, formed, which opened at the surface. The other case was more chronic: it was relieved by the application of nitrate of silver, chlorate of potash and bark being given internally.

(C.) DISEASES OF THE CIRCULATORY SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Heart and Pericardium	4	..	8	4	2	..	6	7	20	11	31
Capillaries:											
Anæmia and Chlorosis .	1	6	..	4	..	..	1	1	2	11	13
Hæmorrhages:											
Epistaxis.....	1	..	..	..	..	..	1	..	2	..	2
Hæmoptysis	2	..	2	2	2	..	2	..	8	2	10
Hæmatemesis & Melæna	..	1	..	1	..	..	..	1	..	3	3
Purpura	3	..	..	..	..	..	1	..	4	..	4
Scorbutus	2	..	..	..	..	..	..	..	2	..	2
Total Results of Males & Fem.	13	7	10	11	4	..	11	9	38	27	65
Total Results	20		21		4		20		65		
Per Centage	30.76		32.3		6.15		30.76		99.90		

This division comprehends sixty-five cases, of which nearly one-third were fatal; the deaths being mostly referred to the heart and pericardium. Of the thirty-one cases of morbus cordis, eleven were either complicated with, or consequent on, rheumatism; five were complicated with hæmoptysis; seven with ascites or anasarca; three with albuminous urine; and two with hæmorrhoids.

We have subjoined a table of some of the more interesting fatal cases, with the ages of the patients, and the duration of illness both before and after admission.

DISEASE.	Age.	Duration of Illness before Admission.	Duration of Illness after Admission.
<i>Morbus Cordis</i> .—Previous rheumatism; hæmoptysis; albuminous urine; hæmorrhoids; infra-mammary murmur; collapse.	29	6 months	4 days
<i>Morbus Cordis</i> .—Ascites; intermitting pulse; enlarged liver; sloughing of integuments; previous rheumatism.	53	9 months	5 weeks
<i>Valvular disease</i> .—Pneumonia; anasarca; hæmoptysis; systolic bruit to right of nipple. <i>Necropsy</i> .—Fluid in pleuræ; right lung hepatized; pulmonary apoplexy; button-hole mitral; two of aortic valves united by ossific deposit.	40	9 months	4 weeks
<i>Morbus Cordis</i> .—Chronic bronchitis; <i>Necropsy</i> .—Heart gorged and hypertrophied; ecchymosis on right ventricle; narrow aorta; pulmonary apoplexy; nutmeg liver.	34	3 months	10 days
<i>Pericarditis</i> .—Pleuritis; diarrhœa; <i>frottement</i> below nipple; albuminous urine; coma. <i>Necropsy</i> .—Fluid in both pleuræ; turbid serum in pericardium, its surface coated with recent lymph; fluid beneath the arachnoid.	40	9 weeks	5 days
<i>Morbus Cordis</i> .—Accustomed to violent exertion; hæmoptysis; urgent dyspnœa; enlarged liver; died suddenly. <i>Necropsy</i> .—Heart hypertrophied; aortic valves ossified; one retroverted into ventricle; right coronary artery nearly obliterated.	41	9 months	5 days

DISEASE.	Age.	Duration of Illness before Admission.	Duration of Illness after Admission.
<i>Morbus Cordis</i> .—Previous rheumatism; systolic bruit; dirotic pulse; bronchitis; hæmoptysis; anasarca; albuminous urine. <i>Necropsy</i> .—Heart hypertrophied and dilated; aorta dilated and atheromatous; only two aortic valves; liver and kidneys congested.	24	3 weeks	13 days
<i>Morbus Cordis</i> .—Bronchitis, delirium. <i>Necropsy</i> .—Effusion into pleuræ and pericardium; lungs pneumonic; valves ossified.	54	6 weeks	2 days
<i>Morbus Cordis</i> .—Previous rheumatism; bronchitis; loud systolic bruit; died suddenly after drinking cold water. <i>Necropsy</i> .—Lungs congested; heart dilated; vegetations on both valves; pericardium partially adherent.	5½	1 week	1 month
<i>Morbus Cordis</i> .—Bronchitis, anasarca; heart's action tumultuous and irregular. <i>Necropsy</i> .—Watery pneumonia; fluid in pericardium; right heart much congested; mitral orifice contracted.	53	4 months	
<i>Morbus Cordis</i> .—General bronchitis; previous rheumatism; sounds indistinct and irregular. <i>Necropsy</i> .—Pericardium universally adherent; right heart gorged; mitral and tricuspid contracted, the latter barely admitting the tip of thumb; plenræ cartilaginous; lungs emphysematous; intestines congested.	38	2 years	3 weeks
<i>Morbus Cordis</i> .—Ascites; anasarca; bronchitis; pulse irregular; systolic murmur. <i>Necropsy</i> .—Fluid in peritoneum; lungs congested; mitral ossified and contracted; liver enlarged.	20	5 years	9 days

The case of epistaxis reported as fatal occurred in a debilitated man twenty-seven years of age, who had been the subject of that complaint, at regular intervals, for six months. He died suddenly six days after his admission. On necropsy, there were old pleuritic adhesions; hypertrophied and dilated heart; the aortic valves were only two in number, covered by recent vegetations; the other viscera were healthy. Hæmoptysis, for

the most part, was a complication of phthisis. In one case the source of the hæmorrhage remained for some time a mystery. There was no evidence of cardiac or phthical disease. Subsequently, however, a venereal ulcer was discovered at the posterior wall of the pharynx. There are three cases of purpura simplex; one of purpura hæmorrhagica; and two of scorbutus. Among the first, one case was fatal, occurring in a highly-strumous child, who was also the subject of mesenteric disease: they were treated by sulphuric acid, bark, and chloride of potash. The two cases of scorbutus speedily recovered, merely by attention to diet.

(D.) DISEASES OF THE DIGESTIVE SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Mouth and Throat :											
Cynanche.....	..	3	..	..	.	..	..	..	..	3	3
Stomach and Intestines :											
Dyspepsia	2	5	4	3	2	..	..	..	8	8	16
Schirrous Pylorus .....	..	..	..	..	..	..	1	..	1	..	1
Colic.....	1	..	..	..	..	..	..	..	1	..	1
Enteritis.....	2	..	..	..	..	..	..	1	2	1	3
Constipation.....	..	..	..	..	..	..	..	1	..	1	1
Diarrhœa and Dysentery	3	3	..	..	..	..	..	..	3	3	6
Hæmatemesis & Melæna	..	1	..	1	..	..	..	1	..	3	3
Icterus and Hepatic disease	3	3	..	1	..	..	1	1	4	5	9
Peritonitis	1	..	..	..	..	..	1	1	2	1	3
Ascites	3	..	1	..	..	..	3	2	7	2	9
Abdominal Tumors.....	..	..	..	1	..	..	1	..	1	1	2
Hæmorrhoids.....	..	..	3	..	..	..	..	..	3	..	3
Total Results of Males & Fem.	15	15	8	6	2	..	7	7	32	28	60
Total Results	30		14		2		14		60		
Per Centage.....	50		23.33		3.33		23.33		99.99		

The above division supplies us with many cases of considerable importance, but our space will merely allow us to allude to some of the more prominent ones. There are fourteen deaths; seven in males, and seven in females; and among these there are twelve inspections recorded.

We observe a case of schirrous pylorus, which was fatal. It occurred in a man aged 42; a labourer employed in the docks, who had been unwell five months previous to admission. He complained of slight pain and vomiting, generally about two hours after taking food. By manipulation, a hard tumor could be detected in the right hypochondriac region, which was painful on firm pressure. He gradually emaciated, and died about a month after admission. On inspection, a schirrous tumor was found completely encircling and constricting the pylorus; the mesenteric glands were enlarged; the liver congested; and the ventricles of the brain contained serum.

The fatal case of enteritis occurred in a young female 25 years of age, who was admitted January 20th with symptoms of well-marked chlorosis. The catamenia had been absent seven months. She was under the usual treatment, and was gradually improving, when, ten days after admission, she was seized with violent pain in the epigastrium, accompanied with vomiting and purging. The countenance became pale and anxious; the tongue morbidly red; the respiration hurried and thoracic. There was some little delirium, with contracted pupils. The abdomen soon became hard and tense, and a sudden touch produced the most excruciating pain. She sank from exhaustion on the 3d of February. Upon examination, the omentum was injected and ecchymosed, and the intestinal canal much inflamed. There was no fluid in the peritoneal cavity. On opening the stomach, several small fatty tumors were found surrounding the pyloric extremity. There was a deep irregular ulcer at the lesser curvature, and, by the aid of a lens, small perforations could be detected. There were also evidences of arachnitis and pleurisy.

A case, admitted as constipation of eight days' standing, proved fatal in a woman of intemperate habits, aged 53. Soon after her admission, melæna, and vomiting of altered

blood, with abdominal tenderness, supervened. She died exhausted at the end of three weeks. The mucous membrane of the stomach was found thickened and ulcerated; the pylorus constricted; the liver enlarged; intestines ecchymosed, with faecal matter adherent; the kidneys pale, and their capsules studded with tubercles.

We find two fatal cases of jaundice. The first was that of a female aged 48, coming on suddenly after a fright: it was accompanied by intractable retching, and itching of the skin. The liver was felt enlarged, and there was a harsh systolic bruit heard over the aortic valves. Death took place three weeks after admission. On inspection, in the fundus of the gall-bladder, which was adherent to the colon, a ragged opening, about the size of a fourpenny piece, was observed: it had not opened into the colon. The cystic duct, and the ductus communis choledochus, were very much dilated, as was the opening into the duodenum. There was no obstruction discovered, and no diseased state of the pancreas or pylorus.

The other was a case of three weeks' standing, in a man who had been suffering much mental anxiety, having been greatly reduced in circumstances. The skin was of a dusky green colour. The patient complained of no pain, merely slight cutaneous itching. Stupor came on, which passed into coma; and he sank five weeks after admission. At the autopsy the arachnoid was opaque, with considerable effusion into the ventricles; the liver was large, and of a greenish-yellow colour. The source of obstruction proved to be an exostosis of the first lumbar vertebræ, pressing on the ductus communis choledochus, which was found dilated. The pancreas was healthy. This patient's age was 65.

Next on the list of deaths are two cases of peritonitis. The first was in a strumous female aged 23, supposed to have resulted from drinking cold water. On examination after death, the intestines were matted together. In the jejunum were ulcers, and in the colon several perforations. The liver was fatty. The remaining case occurred in a farrier, aged 30, and was a complication of pneumonia. He died the day following his admission. The lungs were found in a state of purulent infiltration; the liver and kidneys much congested;

the abdomen distended with fluid ; and the intestines coated with recent lymph.

We perceive there are five out of nine cases of ascites reported as fatal, and these we shall arrange in a tabular form.

DISEASE.	Age.	Duration of Illness before Admission.	Duration of Illness after Admission.
<i>Ascites</i> .—Abdominal veins distended ; great dyspnœa ; emaciation ; paracentesis abdominis. <i>Necropsy</i> .—Encephaloid disease of liver ; omentum puckered, and studded with tubercles ; lungs emphysematous ; old pleuritic adhesions ; schirrous os uteri.	55	8 weeks	5 days
<i>Ascites</i> .—Bronchitis ; tapped twice before admission ; urine not albuminous ; died suddenly ; no inspection.	41	7 weeks	6 days
<i>Ascites</i> .—Anasarca ; jaundice ; spleen felt enlarged ; superficial abdominal veins prominent ; paracentesis before admission, no fluid withdrawn. <i>Necropsy</i> .—Spleen much enlarged, reaching up as high as the nipple ; evidences of old peritonitis ; colon adherent to greater curvature of stomach ; Glisson's capsule contracted.	36	4 months	21 days
<i>Ascites</i> .—Anasarca ; vomiting ; mœlaena ; urine not albuminous ; liver not enlarged ; heart's action healthy. <i>Necropsy</i> .—Fungoid disease of vena cava, projecting upwards into the auricle, and extending downwards and blocking up the renal vein in the substance of the kidney.	45	9 months	6 weeks
<i>Ascites</i> .—Anasarca ; spasmodic bronchitis ; emphysema ; paralysis of portio dura on left side ; pyrosis ; urine not albuminous. <i>Necropsy</i> .—Cretaceous deposits on left side of pia mater ; old apoplectic cysts ; lungs emphysematous ; bronchi clogged with tenaceous mucus ; cirrhosis of liver ; kidneys granular and contracted.	40	3 months	9 days

The case of abdominal tumor recorded as fatal happened in a man aged twenty-seven. The tumor was to be felt during life at the umbilical region : it was accompanied with conside-

rable pain and vomiting. The autopsy revealed a malignant tumor, about the size of an egg, connected with the left lobe of the liver, and there were several smaller tumors on both lobes. There was an extensive ulcer in the stomach near the pyloric extremity, and malignant deposits on the pleuræ, gall-bladder, and renal capsules.

(E.) DISEASES OF THE INTEGUMENTS.

The number of cases in this division is too small to admit of any accurate deduction from the per centage of results; therefore we have omitted the secondary table. We enumerate but fifteen cases, fourteen of which were cured, and one relieved: of these, six were males and nine females.

There are six cases of erysipelas, occurring idiopathically in persons of intemperate habits; two in males, four in females. In the latter the seat of the disease was the head and face: in the former, the lower extremities. They were all successfully treated by free punctures, followed by warm fomentations, with the internal administration of serpentary, bark, and ammonia, with wine or porter. We find a case of sub-fascial inflammation of the thigh, in a young female, that yielded to leeches and purgatives without the formation of matter. Under simple eruptions are cases of lepra, psoriasis, erythema nodosum, impetigo, herpes zoster, and eczema. In the latter disease the *mist. ferri comp.*, together with the external use of the *lot. zinci oxyd.*, steadily persevered in, proved to be most efficacious. The other cases are not of sufficient interest to warrant individual notice.

(F.) DISEASES OF THE LYMPHATIC SYSTEM.

Under this head we find only three cases recorded; one of which was fatal, occurring in a child, aged 7, suffering with universal struma. The necropsy displayed scrofulous tubercles studding the peritoneum, pleuræ, and lungs, with enlarged and hardened mesenteric glands. The two remaining cases were of enlarged sub-maxillary glands, of which one was much benefitted by the use of the cod-liver oil.

(G.) DISEASES OF THE URINO-GENITAL SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Albuminuria	3	2	2	1	1	1	7	2	13	6	19
Diabetes .....	..	..	1	..	..	..	..	..	1	..	1
Nephralgia .....	..	..	1	..	..	..	..	..	1	..	1
Paramenia .....	..	12	..	4	..	..	..	..	..	16	16
Uterine Disease .....	..	2	..	1	..	2	..	..	..	4	4
Ovarian Disease .....	..	..	..	3	..	..	..	..	..	3	3
Total Results of Males & Fem.	3	16	4	9	1	2	7	2	15	29	44
Total Results	19		13		3		9		44		
Per Centage	43·18		29·54		6·81		20·45		99·98		

Forty-four cases are comprised under this head, of which more than one-fifth were fatal; the deaths were all due to albuminuria, of which disease nine out of nineteen, or nearly one-half, were fatal.

Two cases of some interest occurred, where the disease appeared in its acute form. The first, in a domestic servant aged 28, was of six days' standing. It arose from exposure to cold during the catamenial period. Anasarca was general: the urine tinged with blood, and highly albuminous. She was successfully treated by cupping to the loins, warm-baths, antimony, elaterium, and pulv. jalapæ comp. The other case was that of a female, 53 years of age, and was accompanied by considerable pain in micturition. The same plan of treatment was pursued, and with the same result. The urine ceased to be albuminous at the end of a week.

Among the deaths are the following:

DISEASE.	Age.	Duration of Illness before Admission.	Duration of Illness after Admission.
<i>Albuminuria</i> .—Anasarca of scrotum and lower extremities; acute bronchitis; pleurisy. <i>Necropsy</i> .—Serous effusion into both pleuræ and pericardium; bronchi inflamed, choked with viscid mucus; kidneys enlarged, dark chocolate colour, weight 25½ oz.; bladder healthy.	27	3 days	6 days
<i>Albuminuria</i> .—Anasarca; bronchitis; great dyspnœa. No inspection.	32	14 days	3 weeks
<i>Albuminuria</i> .—Ascites, anasarca of lower extremities; enlarged liver. <i>Necropsy</i> .—Liver enlarged, weight 6 lb. 8 oz., in a state of cirrhosis; kidneys enlarged, capsules adherent, numerous cysts in left kidney; spleen adherent to diaphragm; stomach ecchymosed.	34	6 months	5 weeks
<i>Albuminuria</i> .—Bronchitis.	21	5 weeks	1 week
<i>Albuminuria</i> .—Anasarca; dyspnœa; venesection from the arm, diuretics; suppuration of the integuments after venesection; gangrene of lower extremity. No inspection.	40	6 weeks	14 days
<i>Albuminuria</i> .—Anasarca; bronchitis; emphysema.	61	11 weeks	4 days
<i>Albuminuria</i> .—Ascites; anasarca; phthisis. <i>Necropsy</i> .—Lungs tubercular, large cavity in lower lobe on right side; kidneys large and white; cœcum ulcerated.	24	6 months	1 month

The case of diabetes was treated by sesquicarbonate of ammonia, Dover's powder, and animal diet. He left the hospital, three weeks after admission, but slightly relieved.

The case of nephralgia occurred in a man aged 45, who had been suffering for a month with acute paroxysmal pain in the course of the right kidney and ureter, passing down to the knee, with occasional retraction of the testicle on the same side. There was no tumor or spinal tenderness, and nothing abnormal could be detected in the urine. He was benefitted by cupping, with calomel and opium.

(G¹.) DISEASES PECU LIAR TO WOMEN.

SUB-DIVISIONS.	Cured.	Relieved.	Un-relieved.	Dead.	Total.
Hysteria.....	8	2	..	..	10
Chlorosis	6	4	..	..	10
Paramenia :					
Amenorrhœa	8	2	..	..	10
Dysmenorrhœa	2	1	..	..	3
Menorrhagia	1	1	..	..	2
Vicarious Menstruation..	1	..	..	..	1
Diseases of Uterus	2	1	1	..	4
Ovaries.....	..	3	..	..	3
Total Results	28	14	1	..	43
Per Centage.....	65·11	32·55	2·34	..	100

Few cases of interest are classed in the above table. The ages of the patients with ovarian disease were 27, 47, and 60. The first was a single woman, who had been ailing three years and a half; the second was married, had borne nine children, and the disease was of three years' standing; while in the last case the disease had existed four years and a half, and paracentesis had been had recourse to three times. The patient was the mother of six children.

The diseases of the uterus comprise a case of pelvic abscess, coming on three weeks after natural labour, which was cured; a case of prolapsus uteri, also cured; one of fibrous tumor between the bladder and uterus; and a case of cauliflower excrescence from the os uteri, accompanied with hæmorrhage, unrelieved.

(II.) DISEASES OF THE FIBROUS TISSUES. *

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Rheumatism :											
Simple	10	9	7	..	1	..	..	2	18	11	29
Venereal	2	..	1	..	..	..	..	..	3	..	3
Gout. ....	..	..	2	..	..	..	..	..	2	..	2
Synovitis .....	..	1	..	..	..	..	..	..	..	1	1
Total Results of Males&Fem.	12	10	10	..	1	..	..	2	23	12	35
Total Results	22		10		1		2		35		
Per Centage	62·85		28·56		2·85		5·71		99·97		

In referring to the above table, it will be perceived that it embraces twenty-nine cases of simple rheumatism. Of these, twelve were acute, and seventeen chronic. Of acute rheumatism, seven were in males, and five in females. Two cases were fatal, both being complicated. The first occurred in a female, aged fifty, of impaired constitution, who was admitted with chronic pleurisy and bronchitis: in a few days she was attacked with acute rheumatism, and died collapsed at the end of the third day. In the other case, cardiac and pulmonary diseases supervened on acute rheumatism in a young girl of 14. In both an inspection was refused.

Chronic rheumatism presents little to engage our attention. In many cases the disease proved very intractable. The principal complications were affections of the heart or pericardium, and bronchitis.

The case of synovitis alluded to was of the shoulder-joint: it was cured by leeches and colchicum.

(I.) DISEASES OF THE EYE.

We must look to the Surgical Report for ophthalmic disease. The Medical division numbers only two cases; one a case of stru-

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mous catarrhal ophthalmia with an ulcer on the cornea, cured by leeches to the temples and alteratives; the other a case of sclerotitis in a rheumatic subject, which yielded to colchicum and cupping.

(K.) FEVERS.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Infantile Remittent	1	1	..	..	..	..	..	..	1	1	2
Intermittent.....	10	8	2	..	..	..	1	..	13	8	21
Continued :											
Maculated	3	2	..	..	..	..	..	..	3	2	5
Non-maculated	22	15	..	3	..	..	2	2	24	20	44
Scarlatina	2	..	..	..	..	..	..	..	2	..	2
Variola .....	..	..	..	..	..	..	1	..	1	..	1
Total Results of Males & Fem.	38	26	2	3	..	..	4	2	44	31	75
Total Results	64		5		..		6		75		
Per Centage	85·33		6·66		..		8·		99·99		

The point which here first claims our notice is the per centage, as it indicates a considerable increase in the number of fever cases. Of the whole number of medical cases reported in the year 1844, the ratio of fever was 11·554 per cent.; in 1845-46 it was 10·138 per cent.; while in the present report it is 16·094; shewing an increase of 5·248 per cent. over the two last years.

The table contains twenty-one cases of intermittent fever. Of these, eight were of the quotidian type; five tertian; one quartan; and in seven the disease exhibited itself in an irregular form: in the last a marked tendency to hepatic derangement was observed; the other chief complications were diarrhoea and bronchitis; and in two cases the spleen was found enlarged. It was remarked that a large number of the

cases occurred in labourers who had been hopping in Kent, sleeping at night in the open fields; and that in many instances the disease did not develop itself until some time after their return home. In nineteen cases the disease yielded to quinine; in two, arsenic and the sulphate of bebeerine having respectively failed; but in one case, where there existed some bowel complication, the arsenic effected a cure when the quinine had failed. There was one fatal case occurring in a worn-out old man who had been hopping: the ague was of the tertian type, and was complicated with bronchitis.

Continued fever numbers forty-nine cases, five only being maculated; of which twenty were in males, and twenty-two in females; and among these are included four deaths.

The subjoined table illustrates the chief complications:

Cerebral affection	5
Bronchitis	10
Pneumonia	2
Jaundice and hepatic derangement	5
Iliac complication	5
Purpura and herpes	1
Spinal disease	1
Paralysis of bladder	1
Albuminuria	2
Chlorosis	1
	<hr/>
	33
Fever uncomplicated	16
	<hr/>
Total	49

The following were the ages of the patients admitted with continued fever:

From 7 to 15 years	16
.. 15 to 20	11
.. 20 to 30	16
.. 30 to 65	6
	<hr/>
Total	49

We number four fatal cases. The first occurred in a female aged 23 years, who had been ill fourteen days. On admission, there was violent diarrhoea and great abdominal tenderness. At the necroscopic examination, the ileum presented a mass of ulceration; and at one spot there was thought to be perforation. The ileo-colic valve was much implicated. The

patient lived ten days. The second case was complicated with bronchitis, and was of a low typhoid character. The patient's age was 24. He had been ill six weeks, and died six days after admission. On examination, there was serous effusion into the pleuræ; the bronchial tubes choked with viscid mucus; the small intestines were found ulcerated; and the whole of the viscera much congested.

The next case was that of a female aged 37, who was suffering with spinal disease. It has been already alluded to. The subject of the remaining case was a fine, well-made man, 41 years of age. The progress, at first, was favourable; but a relapse took place, accompanied by fierce delirium, nausea, vomiting, and symptoms of high cerebral irritation. There was no examination of the body.

The fatal case of variola occurred in a young man aged 18. The eruption was confluent on the face, hands, and upper extremities, very few pustules being observable over the abdomen. There was busy and active delirium. Death took place at the end of the tenth day of the fever, and eighth of the eruption. The case was admitted on the supposition of its being common continued fever.

(L.) POISONS.

This our last division includes only four cases; the remaining cases of poisoning, among which are many interesting ones, being inserted in the Surgical Report.

There are recorded two cases of ptyalism. The first was that of a female, who had taken three pills for a diarrhœa. This was soon followed by swelling of the internal part of the mouth and fauces, with great fœtor of the breath, and a copious discharge of saliva. She was successfully treated by blisters behind the ears, and a gargle of alum and tincture of myrrh. The other case occurred in a sailor, who had been rubbing in mercurial ointment for pediculi. Here, also, the alum gargle was employed with benefit.

The remaining two cases were attributable to the effects of lead. They were cases of dropped hands occurring in painters, who had been the subjects of previous colic. The treatment employed was, free purgation, electricity, and the mineral tonics, with splints to the hands; in both with eneficial results.

REPORT OF THE CLINICAL SOCIETY,

FROM APRIL 1846 TO MARCH 1847.

PART II.

SURGICAL DIVISION, BY SAMUEL WILKS.

THE Surgical Report consists of 1222 cases, occurring within a period of twelve months. These are all classified in a manner similar to those of previous years. The primary divisions of disease, as first used, are still found to be the most useful and complete, but the sub-divisions are in a measure framed to meet the particular cases presented to us; and in this some difficulty arises in consequence of their closer resemblance to each other on more minute analysis. Although a mere nominal expression is of little worth where a full report of each case is given; yet in a tabular form, where a few cases, or even one, is made to represent a general fact, and become the type of that disease under which it is placed, the importance of such expression is evident. For this reason, the per-centages, though inserted as before, can, we think, be of little utility but to compare with those of previous years, or to make a general average from the addition of the whole.

In the name of the Society we must here state, that we cannot feel too much indebted for the past services of Mr. Poland, and for the prosperous way in which he left its affairs when he resigned his office as Secretary.

GENERAL TABLE OF RESULTS OF SURGICAL CASES

PRIMARY DIVISIONS.	Cured.			Relieved.			Unrelieved.			Dead.			Total.		Per Centage.
	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.	Per Cent.	M.	F.	
Injuries and Diseases of															
A. Nervous System.....	15	1	41.02	3	2	12.82	3	..	7.69	13	2	38.46	34	5	3.191
B. Lungs and Appendages	4	1	50.	..	..	..	..	..	..	5	..	50.	9	1	.818
C. Organs of Circulation	5	3	72.72	..	..	..	..	..	..	2	1	27.27	7	4	.900
D. Organs of Digestion	35	34	63.88	13	6	17.59	7	2	8.33	8	3	10.18	63	45	8.837
E. Integuments	133	62	78.94	13	10	9.31	6	1	2.83	16	6	8.90	168	79	20.212
E ¹ . Tumors	8	7	75.	..	..	..	2	2	20.	..	1	5.	10	10	1.636
F. Lymphatics	11	1	70.58	2	1	17.64	1	1	11.76	..	..	..	14	3	1.391
G. Urino-Genital System.....	172	93	72.80	48	13	16.75	16	8	6.59	14	..	3.84	250	114	29.787
H. Joints.....	48	39	69.04	12	12	19.04	8	1	7.14	4	2	4.76	72	54	10.310
H ¹ . Bone	133	16	72.33	15	2	8.25	7	3	4.85	28	2	14.56	183	23	16.857
I. Eye.....	19	5	39.34	22	6	45.90	7	1	13.10	..	1	1.63	48	13	4.998
K. Poisons	1	8	69.23	..	..	..	..	..	..	2	2	30.76	3	10	1.072
Total Results of Males and Females	584	270	..	128	52	..	57	19	..	92	20	..	861	361	1222
Total Results	854			180			76			112			1222		
Per Centage	69.885			14.729			6.219			9.165			99.998		

(A.) INJURIES OF THE NERVOUS SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Fractured Skull .....	..	..	..	..	..	..	6	..	6	..	6
—— Spine .....	..	..	..	..	..	..	3	..	3	..	3
Concussion of Brain	10	..	..	..	..	..	..	..	10	..	10
—— Spine	4	1	1	..	1	..	..	..	6	1	7
Tetanus .....	..	..	..	..	..	..	2	2	2	2	4
Drunkenness .....	..	..	..	..	..	..	1	..	1	..	1
Delirium Tremens	1	..	..	..	..	..	1	..	2	..	2
Paralysis .....	..	..	1	1	1	..	..	..	2	1	3
Epilepsy .....	..	..	1	..	..	..	..	..	1	..	1
Neuralgia .....	..	..	..	1	1	..	..	..	1	1	2
Total Results of Males&Fem.	15	1	3	2	3	..	13	2	34	5	39
Total Results	16		5		3		15		39		
Per Centage	41·02		12·82		7·69		38·46		99·99		

The cases of fractured skull were of a severe nature, and speedily proved fatal. The necroscopic examination shewed, in four of these, fractured base and side of skull, with lacerated brain and extravasated blood. The other two cases were not inspected, but were probably of a similar kind.

Of the cases of fractured spine, one occurred in a man from a heavy sack falling on his back when in a stooping position, by which the first dorsal vertebra was broken. The symptoms were, total loss of sensation and motion of the lower extremities, and of the body as high as the third rib; partial paralysis of the upper extremities; diaphragmatic breathing; integrity of cerebral functions. He lived twenty-eight hours. Another case occurred in a man from a cask falling on his back. The symptoms were very similar to those of the last case, and the fracture was probably in the same place, though there was no examination after death to decide it. This patient lived

six days. The third was a fracture of the twelfth dorsal vertebra, from a fall of sacks on the back. The loss of motion in the leg, which was at first only partial, soon became complete, but sensation, to a certain degree, continued to the last. The symptoms primarily being so few, led many to the belief that it was only a case of concussion. This man survived the injury two months.

The only case of interest among those of concussion of the brain was that of a lad, in whom the symptoms continued for fifteen days, with occasional convulsive startings, which, coupled with a depression in the scalp, gave rise to the consideration of the propriety of using the trephine. At the end of this time, however, the patient began to improve, the symptoms abated, and he gradually recovered his perfect health.

Of the cases of tetanus, one was in a boy twelve years of age, supervening on a wound of the foot, which happened three days before by treading on a rusty nail. He lived two days. Another resulted from a compound fracture of the tibia and fibula into the ankle-joint of a man aged sixty-seven. The symptoms came on in the usual way about nine days after the accident, and he died in a spasm three days from their commencement, without having had any very severe paroxysms. The two female cases were interesting on account of their rarity, for both were induced by burns. The one was in a child nine years of age, where the burn involved nearly half of the body. Great restlessness and sloughing of the integuments marked the case till the tenth day, when trismus was perceived. The symptoms became rapidly worse, being all those of genuine tetanus; and complete lock-jaw came on, and the patient died in a spasmodic fit fifty hours after the commencement of the symptoms. The other case was not quite so decided as the first. The patient, 25 years of age, was subject to periodic epileptic fits, occurring once a month. In one of these the burn took place, which affected the arm, shoulder, and wrist of one side, and exposed the cutis. She continued in rather a low state until a few days before her expected epileptic seizure, when trismus gradually came on, with difficulty of swallowing and rigidity of the abdominal muscles; all which tetanic symptoms were increasing when the convulsions and screaming, which she had been accustomed to have in her fits, occurred, and in this state she died. The

examination after death of these cases developed nothing touching the pathology of the disease.

In the case of drunkenness the extreme collapse of the patient prevented any active measures being used. There was perfect insensibility, fixed dilated pupils, and stertorous breathing. Death occurred in ten hours. The inspection of the body revealed nothing more than a congested brain and a stomach full of alcohol.

One case of delirium tremens was treated successfully with opium; the other, supervening on fractured patella, proved fatal in twenty-four hours; the opium merely acting by producing contraction of the pupils.

(B.) INJURIES AND DISEASES OF THE LUNGS AND APPENDAGES.

Under this division occur five cases of cut-throat, and five of wounds of the lung from fractured ribs. Four of the cases of cut-throat were in men, and one in a female. In the latter the incision was below the os hyoides, and recovery soon took place. In all the former the wound was between the os hyoides and thyroid cartilage. Two of these recovered; one died from collapse; and the fourth survived the injury two months, when he died of disease of the lungs. Of the five cases of wounded lung with emphysema, three were fatal; the other two recovered. They all occurred in men.

(C.) INJURIES AND DISEASES OF THE ORGANS OF CIRCULATION.

Under this head are two cases of thrombus; three of aneurism; three of varicose veins; two of senile gangrene; and one of epistaxis.

The first case of thrombus occurred in a man from the kick of a horse in the thigh. A pulsating tumor presented itself, which, however, could be detached from the artery beneath. It soon became absorbed, and the patient recovered. The other case was that of a woman who received a violent blow on the labium pudendum, causing the production of a large tumor in the part, filled with blood. After much swelling, it burst, discharged coagula, and slowly granulated.

The first case of aneurism was traumatic, following a puncture of the brachial artery during venesection a month before. The sac was laid open, and both ends of the vessel tied.

The second was a popliteal aneurism of five weeks' standing. Pressure was tried with various instruments on the femoral artery during a period of three weeks, but without benefit: the patient was utterly unable to bear it for more than three days together, and only once for this length of time; the previous trials having been only for a few hours. An instrument that could alternate the force was used. The femoral artery was subsequently tied, and the man did well. The third case was a femoral aneurism which had burst two days before the patient's admission into the hospital, in consequence of a fall. When he presented himself the whole thigh was enormously swollen and livid with the effused blood, and the whole extremity œdematous. At first there was some difficulty in the diagnosis; but the impulse which the swelling gave to the hand, together with the man's account of his having had a pulsating tumor in the groin for three months, decided the surgeon at once to tie the external iliac artery. The ligature came away on the twenty-third day, the swelling of the limb slowly subsided, and the man gradually recovered.

One of the cases of varicose veins was cured by rest and bandaging; another by laying the varix open; and the third by the application of caustic potash, which completely produced obliteration of the vessel.

The cases of senile gangrene occurred in a male and female, respectively of the ages of sixty-one and fifty. They both died exhausted, there being no effort made to get rid of the mortified parts. In the woman the disease commenced in the toes ten months before her admission: she was very emaciated, and had lived very badly. In the man the symptoms were more acute: the disease had begun in his toes only two months before, after walking in the wet. It was preceded by swelling and constant pain in the part, lasting for four weeks; the gangrene then appeared, and before death had extended quite up the leg. Upon necroscopic examination, the anterior and posterior tibial arteries were found to be complete bony tubes, filled with coagula, rendering them impervious.

The case of epistaxis was in a man apparently convalescing from scarlet fever. He had had repeated hæmorrhages from the nose before his admission. His nares had been plugged, and various remedies used, but all to no avail; he shortly died from mere prostration.

(D.) INJURIES AND DISEASES OF THE ORGANS OF DIGESTION.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Mouth and Throat:											
Ulcerated Throat.....	6	6	3	1	..	..	..	2	9	9	18
Harelip.....	2	..	..	..	1	..	..	..	3	..	3
Ulcerated Lip.....	..	1	..	..	..	..	..	..	..	1	1
Nose.....	1	..	..	..	..	..	..	..	1	..	1
Cancer of Lip.....	1	..	1	..	..	..	..	..	2	..	2
Ranula.....	..	1	..	..	..	..	..	..	..	1	1
Diseased Palate.....	1	1	..	..	..	..	..	..	1	1	2
Antrum.....	..	1	..	..	..	..	..	..	..	1	1
Lower Jaw.....	..	4	2	..	..	..	..	..	2	4	6
Salivary Glands...	1	1	..	..	..	..	..	..	1	1	2
Esophagus.....	..	..	..	..	1	1	..	..	1	1	2
Polypus Nasi.....	..	..	..	..	1	1	..	..	1	1	2
Enlarged Tonsils.....	1	2	..	..	..	..	..	..	1	2	3
Abdomen, &c.											
Injury.....	..	..	1	..	..	..	..	..	1	..	1
Hernia.....	10	11	3	..	..	..	8	1	21	12	33
Fæcal Fistula.....	..	1	..	..	..	..	..	..	..	1	1
Inj. and Diseases of Rectum:											
Abscess.....	2	1	..	..	..	..	..	..	2	1	3
Fistula.....	4	3	1	1	2	..	..	..	7	4	11
Malignant Disease.....	..	..	1	1	1	..	..	..	2	1	3
Hæmorrhoids.....	6	1	1	2	..	..	..	..	7	3	10
Stricture.....	..	..	..	1	1	..	..	..	1	1	2
Total Results of Males & Fem.	35	34	13	6	7	2	8	3	63	45	108
Total Results.....	69		19		9		11		108		
Per Centage.....	63·88		17·59		8·33		10·18		99·98		

Of the cases of ulcerated throat, ten had a syphilitic origin. Nine were cured by tonic medicines and general support; one was complicated with phthisis laryngea, and proved fatal. Of the remaining eight cases, four had sloughing of the soft parts of the palate, but no history of syphilis. One of these was in a woman, and was fatal from the implication of the cartilages of the larynx in the disease: the ulceration spreading, eventually laid the pharynx and larynx into one cavity, so that the patient, many days before her decease, was supported wholly by injections per rectum.

The cases of harelip successfully operated on were in patients of the ages respectively of twenty-seven months, and two months.

The ulcer on the lip originated in a blow, but had a venereal aspect. That on the nose was with difficulty healed: it was in consequence of the ala having been bitten off by another man.

Both of the cases of cancer of the lip commenced merely as fissures. One was much relieved by the application of chloride of zinc; the other was cured by the knife.

The ranula occurred in a young woman: it was cured by passing a seton through it, which caused suppuration, and subsequent obliteration of the cavity.

The diseases of the antrum and palate were tumors situate in those parts. That of the antrum was the size of an orange, and removed with a thin shell of bone surrounding it. It had a fibro-cellular appearance. The other, also removed from the posterior part of the bony palate, appeared fibro-cellular, but probably, with the former, was of a malignant character. The microscope shewed nucleated cells in both. The third case was that of a man who had a fungoid tumor growing from the palate. It was removed by keeping a ligature around it for five weeks. The patient had had it twenty-eight years, and had had it removed twice before. It bled if much handled.

The cases referred to under "Lower Jaw" will be more specially noticed under the head "Diseases of Bone."

The cases of polypus nasi were unrelieved: one of them was probably malignant.

One of the cases of disease of the œsophagus was schirrus of that organ. The nature of the other was not satisfactorily ascertained.

The enlarged tonsils were cured by excision.

Our division "Hernia" supplies us with some very interesting cases. We have recorded in all thirty-three. Of these, fifteen were oblique inguinal (in men), and eighteen femoral. Of the latter, six were males and the rest females. Five of the inguinal were operated on. Of the remaining ten, one was admitted in a state of collapse, and shortly died. Of the others, five were reducible, and returned by use of warm-bath and application of ice. Two cases of irreducible hernia, which had existed for fourteen years and five months respectively, had the symptoms alleviated by ice application, and antimony internally. Another case was that of an omental hernia, without urgent symptoms: it was greatly reduced, in three weeks time, by the application of leeches and ice. The remaining case was that of a man aged 29, who had had an irreducible hernia for five years. It was completely returned in five days, by rest, application of ice, and abstinence from much food.

With regard to the five cases of inguinal hernia which were operated on, the first occurred in a man aged 60: it was scrotal, and had existed for thirty years, and had been two days strangulated. The sac was opened, and the intestine which it contained, returned. Death occurred in thirty-two hours from the giving way of the intestine into the peritoneal cavity. The next case was that of a man 47 years of age, who had had a scrotal hernia twenty-five years. The sac was opened, and contained, besides a knuckle of intestine, a small diverticulum attached to it, of about three inches long. After his death, which resulted from peritonitis, the diverticulum, which filled the sac, resembled very much in appearance the appendix cæci, but was fifty-four inches higher up the canal. The third case was a bubonocoele in a man aged 21: it had only existed four days. There was no testis on the ruptured side. The sac was opened, and the patient did well. The fourth case was one of great interest. The subject was a man aged 64, who had suffered from scrotal hernia thirty-six years. A part of the contents of the sac had been returned by the taxis before the patient's admission into the hospital. Relief, however, not having been obtained, the operation was performed sixty hours after the first strangulation. The sac

was opened, and found to contain nothing but omentum. The symptoms continued, and the man died in five days. Upon examination after death, there was found a considerable portion of intestine strictured at the internal ring, but quite away from the sac, being pushed up behind the peritoneum, so as to be quite out of the reach of the operator. The last case was that of a congenital hernia, occurring in a man aged 22, and which had been strangulated thirty-six hours. The sac was opened, the intestine returned, and a large piece of omentum removed. The patient was operated on while under the influence of ether. He did well.

Of the six cases of femoral hernia in men, five were operated. The one relieved was in a patient 52 years of age, who had only noticed the tumor twenty-four hours before admission, when the symptoms came on. In an hour after taking two grains of tartar emetic it was partly reduced, only a small portion of omentum remaining behind. The first case of operation was in a man 65 years of age. It was a recent hernia, having only existed twenty-four hours. The sac was not opened, and the patient recovered. The next was in a man aged 60, who had been the subject of hernia for six years, which now had been strangulated five days. The sac was opened, the parts surrounding it were found suppurating, and the intestine, which was gangrenous, was left untouched. Poultices were applied in anticipation of an artificial anus, but in a few hours the bowel gave way internally, and the case soon terminated. In another man, aged 70, the sac was opened, but death took place from peritonitis. Another case also occurred in a man aged 70, where the sac was not opened: death occurred from exhaustion. In the fifth case the patient was 52, and the bowel had been strangulated three days. The sac was not opened. The bowels were freely relieved, but the patient gradually sank. No examination of the body was allowed.

Of the twelve cases of femoral hernia in women, seven were operated on. Of the others, three were reducible, and returned by the taxis, warm-bath, calomel, and opium. In one woman, aged 48, the hernia was of very large size, and supposed to contain large intestine. It had been reducible eight years, but it had now increased for the last three days, and she had not been able to return it. The only symptom was

pain in the part. It was reduced in eight days by the application of ice. Another female, aged 36, had been the subject of a hernia ten months; but it had been strangulated thirty-six hours. It contained nothing but omentum. There were no symptoms. At first, warm-bath used, and ice applied; afterwards, warm applications, which reduced it to a very small size in two weeks; since which time it has been completely returned.

In reference to the operations in the female cases, the first was in a woman aged 50, who had had a hernia six months, and which had been strangulated five days. The sac was not opened, and the patient recovered. In the next the age was 63: the hernia had existed eight years, and been strangulated two days. The sac was not opened. This patient died of peritonitis. In another patient, aged 45, the symptoms of peritonitis had existed for three days, and only at the end of that time, when the patient entered the hospital, was it discovered that they arose from a hernia. The patient herself was unconscious of its existence. The sac was opened, and the case did well. In another case the patient was 41 years of age, the sac was not opened, and recovery took place. Another, aged 62: the sac was also not opened, and the case did well. In the sixth case, a woman aged 34, the sac was opened, and it terminated favourably. In the last case, where the age was 44, the sac was not opened, and the patient left the hospital, at the end of two weeks, convalescent.

It appears, then, from the above facts, that out of the fifteen cases of inguinal and six of femoral hernia occurring in men, five of the former and five of the latter were operated on; and of the twelve cases of femoral occurring in women, seven were operated on; making, in all, five inguinal and twelve femoral on which operations were performed. Of these seventeen cases, eight died; seven males, consisting of three inguinal and four femoral, and one woman. The hernial sac was opened in nine cases, (all the inguinal and four of the femoral, two males and two females,) and unopened in the remaining eight. Of the former class five died, and of the latter, three.

The fecal fistula occurred in a woman aged 47. It had existed for ten months, and probably had resulted from the

giving way of a femoral hernia. It healed up favourably.

Two of the cases of fistula in ano complicated with chest disease were unrelieved. In each of the others the sinus was laid open: seven recovered; and in two the incision only partially healed. The abscesses were all laid open and cured.

In two of the cases of carcinoma of the rectum great relief was obtained by the introduction of bougies. In the other case the cancerous growths were more external; some of which were removed by the knife, and others by an escharotic formed of lard, yeast, and flour. The active principle brought out by the decomposition of these substances is said to be sebacic acid. One of the cases of stricture of the rectum was complicated with some pelvic disease, and the other was probably one of malignant action.

Of the hæmorrhoids, four were cured by excision; one by ligature; and two by a strong solution of nitrate of silver. The remainder were relieved by leeches.

(E.) INJURIES AND DISEASES OF THE INTEGUMENTS.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Contusions	23	2	..	..	1	..	..	..	24	2	26
Wounds	32	2	..	..	.	..	7	..	39	2	41
Burns	4	1	..	..	..	..	5	5	9	6	15
Scalds	3	2	..	1	..	..	1	..	4	3	7
Contractions .....	..	..	1	..	..	1	..	..	1	1	2
Phlegmon and Suppuration	26	12	4	4	3	..	2	..	35	16	51
Ulceration.....	38	27	4	4	1	..	1	1	44	32	76
Eruptions	6	13	3	1	1	..	..	..	10	14	24
Erysipelas	1	3	1	..	..	..	..	..	2	3	5
Total Results of Males & Fem.	133	62	13	10	6	1	16	6	168	79	247
Total Results	195		23		7		22		247		
Per Centage	78.94		9.31		2.83		8.90		99.98		

Of the wounds, nineteen were scalp wounds, and seven were severe injuries on railroads, causing death. There was a gunshot wound, in which the charge of a gun passed up from the wrist to the elbow, destroying the integument and fascia, and exposing the muscles. Much sloughing and suppuration ensued, so as to expose the ulna. It afterwards slowly granulated.

The burns and scalds were mostly treated with oil and lime-water, and afterwards with basilicon ointment; except when very severe, and death inevitable, a general covering of flour was found more advisable. In a few, carded wool was used, and unguentum opii for a dressing. In one case, a child, and in another, a woman, tetanus supervened, mention of which has already been made under the head "Nervous System." The former case was treated with oil and lime-water and general support; and the latter with turpentine oil and lime-water locally, and opium brandy and quinine internally.

A case of old cicatrix in a child, with contraction of the knee from a burn, was irremediable. The other was that of a man aged 23, who had permanent flexion of the fingers from the same cause. He was somewhat relieved by the division of the cicatrices. The hæmorrhage, after some days, was relieved by the matico, given both internally and externally.

The only case under phlegmon and suppuration deserving of mention was that of a man who had a large abscess under the pectoral muscle, which had been caused a month previously by the very forcible reduction of a dislocated shoulder: it terminated by a fistulous opening, which communicated with the lung. It was eventually cured.

We have not space to treat individually of ulcers; and as no two cases were exactly similar, we feel that less than this would be practically useless. As a general outline, it may be said that three were healthy, twenty-eight indolent, nine cellulo-membranous, six inflamed, four sloughing, two menstrual, five varicose, eight tertiary, six depending on diseased bone, three from toenail growing inwards, and two carcinomatous. Some of these were compounded of one or more of these characters. Our treatment in the indolent and cellulo-membranous sores has been, for the most part, rest, bandaging, raised position of the limb, and mild stimulant applications, such as black-wash, red precipitate, a lotion containing spiritus ætheris nitrici, nitric acid, nitrate of silver, &c. Internally, tonics, as bark; and if

a mercurial was required, it was mostly the bichloride of mercury with sarsaparilla. A few cases were very successfully treated by a sponge placed over the sore, and firmly bandaged on. The syphilitic tertiary ulcers were mostly cured by the lotio spiritus æth. nitric, or black-wash, and opium and iodide of potassium internally. In the fatal cases death ensued from erysipelas and disease of the lungs. The cases of onychia were treated by removing the nail, and the application of nitrate of silver. An open carcinoma on the hand was removed by amputation; another of similar character on the eyelid was cured by the application of chloride of zinc.

The skin diseases include erythema nodosum, impetigo, lupus, acne, eczema, and scabies; and, in the syphilitic wards, psoriasis, ecthyma, rupia, lepra, and lichen. The case of lupus was cured by nitrate of silver, chloride of zinc, and lotio flava locally, and iodide of potassium internally. The disease had previously been cured by chloride of zinc.

Many cases of erysipelas occurred, secondarily, as supervening upon other disorders or injuries. This was particularly the case in the spring of the present year.

(E¹.) TUMORS.

SUB-DIVISIONS,	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Malignant	3	3	..	..	1	2	..	1	4	6	10
Melanotic	1	..	..	..	..	..	..	..	1	..	1
Steatomatous	1	1	..	..	..	..	..	..	1	1	2
Warty .....	..	1	..	..	..	..	..	..	..	1	1
Sebaceous .....	..	1	..	..	..	..	..	..	..	1	1
Fibro Cellular	1	..	..	..	..	..	..	..	1	..	1
Various	2	1	..	..	1	..	..	..	3	1	4
Total Results of Males & Fem.	8	7	..	..	2	2	..	1	10	10	20
Total Results	15		..		4		1		20		
Per Centage.....	75.		..		20.		5.		100		

Among the malignant tumors, one of the antrum and two of the palate were mentioned in connection with the mouth, under the letter D. Of the remainder, one situate deeply under the ear was unrelieved; another below the angle of the jaw was removed. An open fungating tumor over the temporal region was nearly cured by escharotics. A fungoid sprouting mass, commencing in the glands of the neck, was removed, but the woman died. A large, sloughing, fungoid mass over the gluteal region was left untouched. A fibro-schirrous tumor over the symphysis pubis in a boy was removed with the knife. Another on the dorsum of the hand was unrelieved.

The melanotic tumor removed from the hand of a boy appeared to have been originally a *nævus*, and to have put on its present character after a blow. It appeared fungoid, intermixed with melanotic spots.

One of the steatomatous tumors was below the jaw; and the other a large pendulous one from the back. Both were removed.

The warty tumor occurred in a woman over the ribs: it was of the size of a walnut, and bled on handling. It was excised.

The sebaceous tumor was in a woman, and situate over the sternum, and of the size of an egg. It was removed by the knife.

The fibro-cellular tumor, which was at the angle of the jaw, was removed. Of the rest, one was a large tumor of the labium pudendum, formed merely by hypertrophied cellular tissue, similar in structure to those of the male scrotum. In another case there were small tumors in the vasti muscles, cured by blisters; one in the thigh, cured by iodine; and another in the hypochondriac region, found to be solid on exploration, and unrelieved.

(F.) INJURIES AND DISEASES OF THE LYMPHATICS.

Many cases of absorbent inflammation occurred from injuries, &c., and should not be noticed in this place as primary affections. Eight cases, however, were admitted into the hospital to be treated as such. The remaining nine, were glandular enlargements in the neck, axilla, and groin. One, situate in the neck, by its pressure on the trachea almost threatened suffocation, and gave rise to paroxysms like those of croup. Another, situated over the subclavian artery, was interesting, on account of its pulsating with the artery

beneath, and thus simulating aneurism, for which disease it had been mistaken.

(G.) INJURIES AND DISEASES OF THE URINO-GENITAL SYSTEM.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Bladder:											
Calculus	8	..	1	..	1	..	2	..	12	..	12
Strumous affection .....	..	..	..	..	1	..	..	..	1	..	1
Irritable	2	..	..	..	1	..	..	..	3	..	3
Malignant.....	..	..	..	..	..	..	1	..	1	..	1
Urethra:											
Retention.....	7	..	18	..	..	..	5	..	30	..	30
Stricture	13	..	12	..	3	..	2	..	30	..	30
Injuries.....	2	..	..	..	..	..	..	..	2	..	2
Cancer of Penis	3	..	..	..	..	..	..	..	3	..	3
Incontinence of urine....	..	..	1	..	1	..	..	..	2	..	2
Vesical Fistula .....	..	..	..	..	..	..	1	..	1	..	1
Perinæal Fistula	3	..	1	..	..	..	1	..	5	..	5
Testis:											
Inflammation	11	..	4	..	3	..	..	..	18	..	18
Hæmatocoe.....	1	..	..	..	..	..	1	..	2	..	2
Hydrocoe.....	6	..	..	..	..	..	..	..	6	..	6
Malignant Disease	2	..	..	..	..	..	..	..	2	..	2
Cancer Scroti.....	3	..	..	..	..	..	1	..	4	..	4
Venercal Disease.....	111	83	11	10	6	2	..	..	128	95	223
Diseases of Breast.....	..	10	..	3	..	6	..	..	..	19	19
Total Results of Males & Fem.	172	93	48	13	16	8	14	..	250	114	364
Total Results.....	265		61		24		14		364		
Per Centage	72·80		16·75		6·59		3·84		99·98		

Under stone it will be seen there were twelve cases. Of these, eight were operated on, five by lithotomy and three by lithotrity. A child of 4 years, and a lad of 15, were cut successfully. Another, aged 16, died nine days after the operation. The necroscopic examination shewed that he had considerable organic disease. The case of a man aged 21, from whom three calculi were extracted, terminated successfully. Another man, aged 53, who was much out of health, and who had albuminous urine, left for the country after the operation, with the wound unhealed. Lithotrity was performed in a man aged 72, and with success: he was only operated on once. Another, aged 53, was cured by five operations of lithotrity. And in a third case, aged 22, the stone was crushed in two. Of the other cases, two were children, in whom there was great difficulty in detecting the stone, but they were relieved by medicine; so much so, indeed, that in one case the presence of a calculus was doubted. Another child, unrelieved, was too ill for the operation. A man also, aged 75, died with diseased bladder and kidneys, being too ill for the use of remedies.

The case of fungoid disease of the bladder occurred in a boy aged 14. The symptoms had only existed ten weeks, and the whole case presented great difficulty in diagnosis: it was sent to the hospital as stone; and was also said to have been cystitis, or hæmaturia, with the bladder containing coagulated blood. On inspection, the bladder was found nearly full of malignant disease.

Of the cases of retention of urine, twenty-six arose from stricture. These were mostly only temporarily relieved, as few patients came in to be permanently cured. Two cases occurred in children, from calculi impacted in the urethra. They were cured by removing the stone per perinæum. One, in a lad, occurred from clots of blood obstructing the urethra, but from what cause arising was not ascertained. Another case was that of a boy aged 14, who was sent in under the supposition of his having stone. On sounding him, the instrument struck against a hard body in the urethra, and which, when cut down upon through the perinæum, proved to be a piece of bone. This had probably ulcerated through into the canal from the ischium, for the whole of its ramus felt

thickened and diseased. The patient was a strumous subject, with angular curvature of the spine. In two fatal cases of retention with extravasation, the urethra was opened in the perinæum. In one man, who died with considerable organic disease, a large sac communicated with the bladder, as large as that organ itself, and apparently a dilatation from it. Another case of retention, with very bad stricture and perinæal fistulæ, had the bladder punctured per rectum. The wound healed on the thirteenth day, and the stricture was cured.

Little more can be said of the cases of stricture than what the table shews, unless the treatment of each individually be considered.

Under "Injuries" is a case of extravasation of urine from laceration of the perinæum from the patient falling astride on a paling; and another of a needle in the urethra, which was extracted through the perinæum.

All the patients with carcinoma penis underwent operations. In one the disease commenced on the glans; in another on the prepuce, where there had existed congenital phymosis. The third only dated his phymosis from the commencement of the disease four years before.

The incontinence of urine occurred in one case from enlarged prostate; and in the other, a lad aged 18 years, who had only control over his bladder during the day, it had existed ever since the operation of lithotomy eight years before. It was unrelieved by medicines.

The case of fistulous opening in the bladder remained after the operation of lithotomy in the patient before mentioned, who went into the country with the opening unhealed. He died shortly after his second admission, with extreme disease of the bladder and kidneys, probably malignant.

Under the head "Testis" we commence with inflammation of that organ. Of the whole number, eighteen, there were only seven in which there was a distinct history of gonorrhœa, and but in two of these was it clearly proved that the discharge had ceased on the occurrence of the testitis; in both of which, however, it returned on the improvement of the secondary affection. In four cases it resulted from blows. In the rest no cause could be assigned. In four cases suppuration took place: of these, one was unrelieved; one healed up; and

the other two were complicated with fungous granulations, cured, in the first case, by black-wash and caustic, and in the other by the red oxide of mercury. Six were cured by the antiphlogistic treatment and mercurial inunction. Five were strapped, of which three were cured and two relieved, the iodide of potassium being given in one chronic strumous case. One was cured by a seton in the perinæum. The last, a very interesting case, was in a child twenty months old, who had a testis of the size of an egg: the disease arose from a blow six months previously. There was some purulent discharge from it, but yet it had the general aspect of a fungoid tumor. The boy left unrelieved.

Of the hydroceles, four (two of which were double) were cured by injecting them with tincture of iodine. Two of these had previously been injected without success, one with tincture of iodine, and the other with sulphate of zinc, a few months previously. Another double one was tapped, and afterwards strapped to relieve the enlarged testicles which also existed. The last case arose from a blow on a hydrocele, causing supuration of testis: the lancet released the serum and the pus at the same time.

A case of hæmatocele, resulting from a blow, proceeded to extensive suppuration. The patient quickly sank from prostration. Under this head was also placed an extremely interesting case. It was that of a man aged 33, who had a hydrocele, and a cyst in front of it containing blood, with the testis somewhat enlarged, and the spermatic cord thickened. The patient ascribed it to injuries and blows which he had received on the part. The fluids were evacuated, suppuration occurred, and the man left apparently well. He returned, however, seven months after, with fungoid disease of the testis the size of the clenched hand. It was removed successfully. The cavities before mentioned, which were tapped, were no doubt malignant cysts. The other case of malignant disease was a schirrous testis: it occurred in a man 39 years of age. It had been coming four years, and took its origin from a blow. It was of the size of a swan's egg, very hard and lobulated, the cord being unaffected. It was removed successfully, and found to be of true schirrous character.

Amongst the cases of cancer scroti one was fatal: it oc-

curred eight months after the testes had been removed for a similar disease. It was now extensive, and involved the surrounding parts. The patient died exhausted. The inspection shewed the disease to be quite local. In two other cases, where the size of the cancer was that of half-a-crown, the disease began as a wart. They were cured by the knife.

The cases of venereal disease are so varied that it is found impossible to generalize them for any useful purpose in the compass assigned to us, for no two cases will be found exactly to agree in the situation, character, or duration of the sore; and far less in the constitution, habits, and previous treatment of the affection which, perhaps, had existed weeks before admission: otherwise it would be interesting to bring some of our facts to bear upon many of the much-discussed points relating to this disease; as, the use and abuse of mercury; the connection between the character of the sore and the subsequent eruption, &c. For an outline we shall merely mention that out of 223 cases, 128 were males and 95 females. Of the former, eighty had chancres; twenty-four gonorrhœa; seven buboes only; four constitutional symptoms, as pains in the limbs, &c.; and thirteen eruptions. Of the chancres, thirty-nine were on the glans, and complicated, in thirteen cases, with bubo; in six with phymosis; and in four with paraphymosis. The remaining forty-one were on the prepuce, and combined, in nineteen cases, with phymosis, and in twelve with bubo. Of the cases of gonorrhœa, five had phymosis; three paraphymosis; six testitis; and four sympathetic bubo. In reference to the female cases, sixteen had chancres, four of which were combined with bubo; sixty-four had gonorrhœa, twenty-four of which had also sores from excoriation; five had buboes; and thirteen condylomata and warts. Four cases had merely indolent open buboes; two condylomata; and nine had eruptions.

Diseases of the breast comprise nineteen cases; four of which were milk abscess. Ten were malignant: of which two were fungus hæmatodes, ulcerating and progressing rapidly, and unrelieved; the others were schirrus; in three of which removal was objected to, but the other five were excised successfully. Of the fibrous tumors in the breast, two were

unrelieved from the patients' unwillingness to submit to their removal. One was cured by the knife. Another tumor, which had existed for seventeen years, was of doubtful malignancy: pressure was applied; it was reduced in size, and rendered somewhat softer, but the patient then left for the country: however, it was subsequently heard that she had much improved under the treatment. The remaining case was that of an hydatid of the breast of a woman aged 51, and in whom it had existed five years. Its true nature was proved, also, by the appearance of the echinococci under the microscope.

(H.) INJURIES AND DISEASES OF JOINTS, THECÆ, BURSÆ, &c.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Joints:											
Sprains and Contusions	12	3	2	..	..	..	..	..	14	3	17
Wounds.....	2	..	..	..	..	..	1	..	3	..	3
Dislocations	4	..	1	..	2	..	..	..	7	..	7
Synovitis.	19	8	3	..	..	..	1	2	23	10	33
Rheumatic&Gonorrhœal	3	..	..	..	..	..	..	..	3	..	3
Hysterical .....	..	2	..	5	..	..	..	..	..	7	7
Diseased Cartilage	3	1	3	4	1	..	1	..	8	5	13
Strumous	2	2	2	2	4	..	1	..	9	4	13
Bursæ .....	..	21	1	..	1	..	..	..	2	21	23
Thecæ	1	2	..	..	..	..	..	..	1	2	3
Contracted Tendons.....	2	..	..	1	..	1	..	..	2	2	4
Total Results of Males & Fem.	48	39	12	12	8	1	4	2	72	54	126
Total Results	87		24		9		6		126		
Per Centage	69·04		19·04		7·14		4·76		99·98		

The contusions of joints were seventeen in number. Seven were of the hip, one of the knee, six of the ankle, one of the elbow, and two of the wrist. Of the wounds, one was an extensive laceration of the knee-joint, from a railroad accident; another occurred in a lad aged 15 years, who had the ankle-joint completely laid open from one malleolus to the other, posteriorly, by a barge rope. The question of amputation was mooted, but not determined. The patient eventually recovered, with an anchylosed joint. In another case the elbow-joint was laid open, and the external condyle exposed, by a wound produced by a bottle. Sutures were used, adhesion took place, and perfect motion resulted. Of the dislocations, one was old, of the hip, where there had been also fracture of the femur. Union of the bone had taken place, but the other injury had been overlooked. Two were of the shoulder; one of which was reduced, the other only partially so, the bone having been displaced a month. A compound dislocation of the ankle required amputation. A dislocated clavicle on to the acromion was unrelieved. A case of luxation of the radius and ulna backwards, with fracture of the coronoid process, was cured; as also a compound dislocation of the thumb.

Under synovitis are thirty-three cases. Of these, eighteen were affections of the knee; of which eight were acute, four having no assignable cause: the others resulted from injuries. They were cured by leeches, blisters, &c. Of the remaining chronic cases, four were of that character commonly called *hydrops articuli*. Three of these were cured by the iodide of potassium and blisters. The other was tapped twice with relief, but the subject of it subsequently died with bronchitis. The ordinary chronic cases were cured by counter-irritants and strapping. The treatment of those of the hip was, in one case leeches; in another cupping and a moxa: the third case was fatal from extensive suppuration following erysipelas. Two cases of chronic inflammation of the shoulder, and two of the elbow, were cured by leeching and blistering. A woman, with similar affection of the wrist, died of tubercular disease of the brain. Seven cases of synovitis of the ankle, occurring from sprains and other injuries, were cured by the ordinary antiphlogistic means. Of the rheumatic joints, two

also appeared to have a gonorrhœal origin. The treatment was iodide of potassium and Dover's powder.

Of the hysterical joints, three were of the hip. Two of these were relieved by constitutional medicines; the other by the straight splint and rest, on the supposition of some incipient disease. Two of those of the knee were relieved, and the other cured. In one the pain was alternately in the knee and hip.

The difficulty of separating the different diseases of joints has caused us, for the sake of classification, to place, as is seen in the table, under "Synovitis" those cases only in which the synovial membrane was obviously the seat of inflammation. When the deeper structures were affected, we have, for arrangement, placed adults under the head "Diseased Cartilages," where the complaint was merely local, and the symptoms more acute; and children under the head "Strumous Disease," where the affection was more constitutional, and the symptoms of longer duration and of less severity; though it will be seen there is some difficulty in youth to know how much the disease depends upon a merely local cause, and how much on a constitutional, or how much, indeed, upon a conjunction of both.

Of the adult cases, five were extensive disease of the cartilages of the knee, two of which were relieved by rest and occasional cupping of the joint; one was cured by ankylosis; and the other two were amputated: one recovered, and the other was fatal. An old case of hip disease was unrelieved. Of two cases of chronic disease of the tarsus, one was much relieved by strapping with emplastrum hydrargyri; the other was amputated, and the patient recovered. Two were disease of the elbow: in one, an acute attack supervening on old disease, the symptoms, for a time, were quieted; the other was strapped, with relief. A case of diseased wrist-joint with suppuration was relieved. In the remaining case the disease was confined to the inferior radio-ulnar articulation, and cured by moxa, and iodide of potassium internally.

The following cases all occurred in children, and without any very manifest cause, excepting the peculiar diathesis. Four were of diseased hip; one of which was doing well with the application of a straight splint, but the child left the hospital prematurely. In the three others abscesses formed; of which number one terminated fatally by exhaustion; one

was improved as to health, by medicine; and in the other partial ankylosis was effected. Six were of the knee; two of which were very bad cases, in which amputation was declined; one was relieved by the moxa and alteratives; and in the remaining three the cure was effected by ankylosis; and although the limb was very much flexed on admission, a good angle for the permanent position of the leg was obtained by means of the back screw-splint. One was of the ankle, which was variously treated, but unrelieved; one of the wrist, where probably the exciting cause was violence, was cured; and the remaining case, of diseased elbow, was amputated with success.

The table shews twenty-three cases of bursæ. Of these, one was a hard gouty deposit over the patella in a man, unrelieved; one in a lad, over the tendon of the biceps in the ham, relieved by blisters, but the patient left while under treatment; one over the external malleolus, cured by blisters and pressure. Two were in women, and occurred in the dorsum of the foot; one of which spontaneously suppurated; the other, of the size of an egg, and of five years' standing, had had the fluid evacuated many times, but was now ultimately cured by passing in a seton for six days. The remaining eighteen cases were all bursæ patellæ in females, and all cured. Of these, five were inflamed, and treated with leeches and cold lotions. Four in which the sac was thin, the fluid was evacuated, and obliteration caused by strapping and bandaging. One suppurated, and, involving the surrounding parts, slowly healed. Two cases were very old, suppuration had occurred, and sinuses were left: these were laid open, and recovery soon took place. In two other chronic cases, a longitudinal incision was made the whole length of the bursæ, a piece of lint was placed in the wound, which was left to granulate. The four remaining cases were all cured by setons. One was a large cavity, where the fluid had been evacuated many times: suppuration and cure followed the use of the seton, as it did, also, in another case. In the two others, the bursæ were of the size of a swan's egg, and almost cartilaginous. These were cured by allowing a seton to remain in them for two or three weeks, one having merely a thread placed horizontally, the other having two in a crucial form.

Of the cases of thecal abscess, two resulted from poisoned

wound; one of which required amputation of the finger; the other two got well.

Under the head of "Contracted Tendons" are placed some very obscure cases. One of talipes, unrelieved; one of contraction of the flexor tendons of the knee-joint, without any apparent cause, relieved. A case of stiff neck, probably connected with some rheumatic affection, and involving the fascia, was cured with iodide of potassium and colchicum. The remaining case was obscure; the patient having loss of power in the arm, and great hardness and contraction at its back part. This was thought possibly to arise from inflammation and induration of the triceps muscle. It gradually got softer, and recovered by the use of stimulating liniments, and colchicum internally.

(H¹.) INJURIES AND DISEASES OF BONE.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Simple Fractures:											
Head and Face	1	..	..	..	..	..	7	..	8	..	8
Spine .....	..	..	..	..	..	..	3	..	3	..	3
Ribs and Sternum	17	1	..	..	..	..	3	..	20	1	21
Upper Extremity	18	2	..	..	..	..	2	..	20	2	22
Pelvis .....	..	..	..	..	..	..	3	..	3	..	3
Lower Extremity	69	6	..	..	..	..	4	1	73	7	80
Compound Fracture :											
Head and Face	1	..	..	..	..	..	..	..	1	..	1
Upper Extremity	13	..	..	..	..	..	1	..	14	..	14
Pelvis .....	..	..	..	..	..	..	..	1	..	1	1
Lower Extremity	6	..	..	..	..	..	5	..	11	..	11
Diseases of Bone.....	8	7	15	2	7	3	..	..	30	12	42
Total Resultsof Males&Fem.	133	16	15	2	7	3	28	2	183	23	206
Total Results	149		17		10		30		206		
Per Centage	72.33		8.25		4.85		14.56		99.99		

The fractures of the head and spine were mentioned under the head of "Nervous System." Two were fractures of the malar bone, one of which recovered, and the other died from severe injuries sustained.

Under the next head is a case of fractured sternum, caused by a violent fall against an iron rail. Recovery took place. The remaining were fractured ribs. Of these, five had emphysema, and three were fatal with injury of the lung. The others were merely treated with a bandage and a purge, excepting where much cough or pain ensued, when bleeding, &c., was had recourse to.

The fractures of the upper extremity are comparatively few, being mostly treated out of the house. They comprise, however, one of the scapula, one of the clavicle, twelve of the os humeri, four of the radius and ulna together, three of the radius, and one of the olecranon. The fractured scapula occurred in a lad: the bone was extensively comminuted, being broken into several pieces. Death eventually occurred. The fractured clavicle happened in a man, from a cart-wheel going over it. Of the fractured humeri, two were of the inner condyle, two just above both condyles, and two of the neck. The others were of the shaft. Seven of these cases were complicated with much effusion into the soft parts, and were treated by laying the arm on a pillow supported by sand-bags for a few days. In two cases the patients, the one an old man, and the other a boy, were merely made to keep their beds, and union of the bones took place without any further apparatus. The others were treated with splints, as ordinarily. In the cases of fractured forearm nothing worthy of notice occurred, excepting in one where the humerus was also fractured, and there there was some difficulty in keeping the different parts in apposition. The boy recovered, with partial paralysis of the flexor muscles. Of the fractured radii, two occurred at the lower end, from falls on the hand; the other was a fractured neck, from a violent blow on the part. The fracture of the olecranon was treated by the long straight splint in the ordinary manner.

The fractured pelvis were all complicated with internal injuries, and the subjects of them did not live many days. Of the fractures of the lower extremity there were, of

the femur, thirty; tibia and fibula, nineteen; tibia, fifteen; fibula, nine; patella, four; and metatarsal bones, one. Of the cases of fractured os femoris, three were of the neck, and the remainder were of the shaft. Of the former, death from exhaustion occurred in one; but in the other two, a male and female, respectively of the ages of 53 and 56, the use of the limbs was recovered. The fractures were considered by the surgeon to be within the capsule, though those who are adverse to the opinion of bony union within the joint would probably have considered the fracture, in these cases, to have been external, in consequence of the success of the treatment. Of the latter, three occurred in children, which were effectually cured by tying the limb up in a pillow firmly for two or three weeks. A fracture of the lower part of the shaft took place in a woman aged 96. Firm union and complete recovery resulted from impacting it in a case of leather. In one very oblique fracture just below the trochanters the upper portion of bone pierced the rectus muscle, so that a portion of it was between the bones: this impeded union for a very long while, though at last it took place. Another case was combined with a fracture of the tibia and fibula. One was interesting, as resulting from muscular effort: it occurred in an apparently strong, robust, healthy, tall man, 33 years of age, and at the junction of the middle with the lower third of the bone, and caused by placing one foot over the knee of the opposite leg, to examine a corn on the sole. Of the remainder, the cause was direct violence; and one patient died from exhaustion, the other from the injuries received. Four of the fractures were put up on the double-inclined plane, and the rest (excepting those of the children, and the old woman before mentioned) with the long straight splint, the addition of a foot-piece being found advantageous in many cases.

Of the fractures of the tibia and fibula, eight were put up in side-splints for a few days, and then in pasteboard, with starched bandage; four were laid on the outside, with an outside splint; four in a straight position, on a back-splint with a foot-piece. The remaining three were raised on a peg-box, with the knee flexed. In one fatal case death was caused by delirium tremens. In the greater number of cases the splints were removed in about three weeks' time, and the

limbs done up with the starched bandage; as also were many of the fractures of the femur above mentioned.

Of the cases of fracture of the tibia alone, three were laid on the outer side for a few days, and then enclosed in starch bandage; five had an inside and outside splint, the latter having a foot-piece; three an outside splint alone; three, a back-splint; and one put up at once with pasteboard. All were placed in the starch bandage when the splints were removed.

Of the cases of fractured fibula, all occurred in the lower part of the bone. In two the leg was flexed, and placed on its outside on a splint; in two there was partial dislocation of the tibia inwards: in one of these the leg was left straight on its heel, with an outside splint; in the other, with an inside splint. Three others were treated with an inside splint; one with double-splints. One was cured by rest alone. The remaining case was that of an old Pott's fracture, which had existed for nine months. The fibula, which was broken in two places, united, at the end of three months, by application of an inside splint.

Of the cases of fractured patella, one occurred from direct force, and the subject of it died of delirium tremens; two others occurred from muscular action; and the cause of the fourth was doubtful. One of these was treated by raising the leg on a back splint, and approximating the broken portions of bone by means of straps; the others, by only slightly raising the limb, without pressure on the affected part. They all terminated well.

The fracture of the metatarsal bone was caused by the falling of a weight, and was cured by pasteboard splints and starched bandage.

Under the division "Compound Fracture" we have a case of fracture of the frontal sinus occurring in a lad. Pieces of bone were removed, and air escaped through the opening thus made. The boy recovered, with a contraction of the upper eyelid from the cicatrix. This, however, was afterwards divided, and the lid allowed to drop.

Of the compound fractures of the upper extremity, two were of the humerus. In one case the bone was severely comminuted, and the patient died from exhaustion. The other

occurred in a boy, where the arm was laid on a pillow, and supported by sand bags for three weeks; at the end of which time, the wound had healed, and the arm was then bandaged.

We have only recorded one compound fracture of the forearm. In this case, the patient would not submit to primary amputation: the ends of the bones were therefore sawn off, to favour their reduction: sloughing, however, and gangrene supervened, and amputation, at last, was submitted to, and the case did well.

A compound fractured ulna was laid on a pillow. Suppuration took place, the wound slowly granulated, and the bone united.

The remaining cases of compound fracture were of the hand. Three were of the metacarpal bones; in two of which, where the bones of the fore and middle fingers were implicated, union took place after much suppuration. The other, where the injuries were much more severe, amputation at the wrist was obliged to be had recourse to. One was a case of compound fracture of the thumb, with great laceration of the soft parts, from the bursting of a gun. The parts were all approximated, and covered with the tincture of benzoin: a successful union and a good thumb resulted. The remaining six were compound fractures of the fingers. One united and did well: the others were amputated. The fractured pelvis occurred in a child, from a horse stepping on it: the ossa pubis were separated, and were both fractured. There was also great laceration of the softer tissues. The patient did not long survive.

We have eleven compound fractures of the lower extremities; one of the femur, five of the tibia and fibula, three of the tibia, and two of the toes. That of the thigh was in the middle of the bone: a long outside splint was applied, but the patient died worn out from the extensive suppuration. In one of the cases of fractured tibia and fibula the patient was very irritable and delirious, but eventually did well; side splints being applied, and tonics given internally. In another case, both legs were broken from a railway carriage passing over them: they were raised and laid on a peg box: much suppuration and exfoliation of bone ensued, and the patient was not well before the end of nine months. A third case was treated,

likewise, by placing the limb on a peg-box: the wound soon healed, but union of the bones would not take place: the patient was therefore ordered to get up and rest the leg on the ground. By this means firm union occurred at the expiration of eight months. A fourth patient died from prostration with delirium. The last case was that of a fracture into the ankle-joint. Death ensued from tetanus, which came on on the tenth day; for account of which, see "Nervous System."

Of the cases of compound fracture of the tibia, one occurred in a lad, where the limb was put up in splints, and union soon took place. Another, in which the tibia was severely comminuted, from a railway accident: the patient never recovered from the collapse. In the third case, the patient died exhausted from the suppuration. The two cases of compound fracture of the great toe were put up in pasteboard and bandage, and did well.

There are forty-two cases included under the head, "Diseased Bone." In these we include seven of periostitis; two of exostosis; nine of diseased vertebræ; five of the jaw; and nineteen of the bones of the lower extremity. Of the foregoing, two were malignant—one of the jaw, and one of the os femoris.

With regard to the cases of diseased spine, one occurred in a young girl, and was cured by rest, cupping, seton, and tonics, as iron. Another, in that of a young man, with a prominence of the eleventh dorsal vertebræ: it was caused by a fall, and was accompanied by a numbness of the limbs. The patient was much relieved by rest, counter-irritants, and mercurials. A case of angular curvature in a girl was cured by rest, iron, and liniments. Three were in children; two of which, with dorsal abscess, were relieved by rest and support. The other was in the neck, very large, and was unrelieved. A man with a lumbar abscess, who had previously had a psoas abscess, left the hospital apparently cured; another man with a psoas abscess left unrelieved; and the last case, a woman with a double psoas abscess, both discharging profusely, left the hospital in a dying state.

The exostosis occurred in a boy, on the second phalanx of the thumb. It was removed successfully. Another exostosis occurred in the lower jaw of a girl: it was got rid of by

repeated blisters. Of the other diseases of the lower jaw, one occurred in a lucifer-match maker, with suppuration and exfoliation of bone. The disease had previously been noticed not to be uncommon in those working in phosphorus. Another case was that of a man with a large swelling over the jaw, about which there was a question as to its malignancy: it, however, eventually suppurated, and the patient left much improved, the probability then being, that it depended only on diseased alveoli. The case of a girl, where the antrum was exposed from diseased bone following small pox, was unrelieved. The case of malignant disease of the lower jaw occurred in a single woman, aged 29, and who had had the disease nine years. It occupied the right side of the face, and was removed successfully. The disease was found to be true osteo-sarcoma. The remaining case was exceedingly interesting. The patient, a girl aged 18, had a large tumor, occupying the place of the lower jaw on the right side, and much disfiguring the face: it was generally believed to be malignant. It had been coming for twelve years. The operation was delayed in consequence of the disease appearing fungoid, and increasing so rapidly. The operation was, however, performed, under the influence of ether, by an incision carried all along the ramus, and removal of the half of the jaw at the symphysis and articulation. The part removed appeared healthy at each end, but in the middle it was widely dilated, there being four or five large cells between the internal and external plates of bone, and which appeared like expanded alveoli, all of them containing fangs of teeth. These cells contained a glairy fluid. No trace of malignancy was discoverable by the microscope. In fact, the disease appeared that which is called by some authors spina ventosa. The case went on favourably, and when seen with the previous case some months afterwards considerable hardness existed in the place of the old bone, and very little disfigurement of the face of either patient.

Under periostitis is a case where the tibia and fibula were affected: there was no admission of syphilis. A cure was completed by iodide of potassium and blisters. Another case was that of a woman who had a very severe pain over the fibula, and probably an abscess in the bone. She would not allow the use of the trephine, and so left unrelieved. Another

patient with nodes on the forehead and ulna, and who had suffered much from the effects of syphilis and mercury, was relieved by blisters and iodine. A rheumatic patient, with thickening of the upper end of the humerus, and who had had also syphilis, and taken much mercury, was cured by the iodide of potassium. A case of nodes on forehead and tibia, with a history of syphilis and mercury, also improved under the use of iodide of potassium. A strumous subject, who had had syphilis, suffered from periostitis of the head of the tibia and clavicle, and was relieved by the iodide of potassium. In the remaining case there were nodes which inflamed and suppurated on the lower part of the tibia: they were cured by iodide of potassium and the application of black-wash.

With reference to the cases of organic disease of the bone, one was caries of the bones of the nose, originating in venereal disease and abuse of mercury. Relief was obtained by iodide of potassium and sarsaparilla. A case of disease of the upper part of the femur, with abscess, was relieved. A man with caries of the scapula and tibia, caused by a fall, left much better after the exfoliation of bone. A case of necrosis of the humerus, from an old fracture improperly treated at sea, was relieved. Two cases of caries of the bones of the fingers were cured by amputation. One case of exfoliation of lower part of fibula; two cases of necrosis of metatarsal bones, supposed to have a syphilitic origin; one diseased phalanx of great toe from a blow; a diseased metatarsal bone remaining after the amputation of the toe, some months before, for supposed malignant disease; and a case of diseased bone at the seat of an un-united fracture of the leg; were relieved. Two cases of boys with necrosis of the tibia were relieved; in the one resulting from a blow, in the other from an old fracture in a very strumous subject. A man with great disease of the tibia was cured after much exfoliation of bone. In two females with necrosis of the ulna, the bone in one exfoliated, and the sequestrum was removed in the other. There were also two cases of diseased ribs from old fracture.

The very few number of cures observed under this last head is accounted for by the tediousness of the cases; the patients generally leaving the hospital to become out-patients before they could be called quite well.

Of the malignant diseases of bone, one was in the jaw, before mentioned: the other was an osteo-sarcoma of the femur, involving its upper end. Amputation at the hip-joint was proposed as the only remedy, but not acceded to by the patient.

(I.) INJURIES AND DISEASES OF THE EYE.

SUB-DIVISIONS.	Cured.		Relieved.		Un-relieved.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Diseases of Conjunct. & Cor.	8	..	9	4	2	..	..	..	19	4	23
Iritis	8	1	3	..	1	1	..	..	12	2	14
Cataract	1	3	2	..	4	..	..	..	7	3	10
Amaurosis .....	..	..	3	1	..	..	..	..	3	1	4
Ptosia .....	..	..	..	1	..	..	..	1	..	2	2
Strabismus .....	..	1	..	..	..	..	..	..	..	1	1
Inflamed lachrymal sac..	..	..	1	..	..	..	..	..	1	..	1
Injuries	2	..	4	..	..	..	..	..	6	..	6
Total Results of Males & Fem.	19	5	22	6	7	1	..	1	48	13	61
Total Results	24		28		8		1		61		
Per Centage	39·34		45·90		13·10		1·63		99·97		

Under the first head are four cases of opacity of the cornea, one combined with ophthalmia tarsi and entropium, and cured by the removal of the eye-lashes; one with granular lids, cured by division of external canthus; another, combined with synechia anterior, relieved by application of calomel and nitrate of silver: the other, the result of an old injury, was unrelieved. Two were cases of opacity combined with ulcers on the cornea, the result of catarrhal in the one, and strumous ophthalmia in the other. Another case of ulcerated cornea from strumous ophthalmia in a child. There is also recorded a severe case of scleritis in a man who never had had rheumatism. A case of gonorrhœal ophthalmia in a patient

suffering from that disease. The symptoms were high, but he did well by cupping, scarifying the chemosis, &c. The remaining case was an ulcer on the conjunctival surface of the lower eye-lid, and believed to be a chancre, being very hard, with raised edges and a purulent yellow discharge from it. The patient denied having had syphilis.

Of the cases of iritis, seven were syphilitic, five in men and two in women: of the former, two had synechiæ posterior, and one hypopyon. One with a closure of the iris had an artificial pupil successfully made. This man also had phtheiriasis, which was cured by the *lotio flava*. Of the latter, one was chronic, and unrelieved; the other occurred in a child 11 years of age, who also had scaly copper-coloured eruptions on her body, and who previously had had sore throat and chancres on the genitals. The arthritic cases were five in number, and in one the disease was combined with sclerotitis. In another case the cause was an injury, where suppuration followed, and the deep structures in the globe being involved, the eye was lost. In another case there was no history of syphilis or rheumatism, and the only cause assigned was, the constant exposure to the heat of intense fires.

With regard to the cases of cataract, two in young men, capsular, were operated on for solution, and with good result. The operation in two somewhat older was not followed with success. The four lenticular in aged people were double in all. In one, both were extracted: the sight was improved in one eye. In the others, women, one lens only in each was extracted by the lower section, and all were cured. A case of capsulo-lenticular cataract left unrelieved; as did also another with glaucoma and amaurosis.

Of the cases of amaurosis, two in young people, asthenic, relieved by tonics and electricity. A man much relieved by blisters and *nux vomica*. The other occurred in combination with paralysis of the other nerves of the face.

The cases of ptosis occurred in women. The one with dilated and fixed pupil, and complete amaurosis, was somewhat relieved. The other was a case of ptosis, fully detailed in the last Volume of the Hospital Reports.*

The strabismus was in a girl: there was convergence of both eyes. It was cured by operation.

With reference to the injuries of the eye, in three the cornea was wounded: synechia anterior resulted in one, and prolapse of the iris in the others with effusion of blood in the anterior chamber. In one of these the vision was lost. The three other cases happened from blows; in one of which the lens was partially dislocated into the anterior chamber; in another there was merely inflammation of the conjunctiva with chemosis; in the third the cornea ulcerated, leading to hypopyon and prolapse of the iris. Recovery took place.

(K.) POISONS.

	CASES.
Poisoning by Bichloride of Mercury,	3
Arsenious Acid	2
Oxalic Acid	2
Opium	2
Acetate of Lead	1
Belladonna	1
Nux Vomica	1
Nitric Acid	1
Total	<u>13</u>

The first case of poisoning by bichloride of mercury occurred in a man aged 50. Probably about a drachm was taken, and with a suicidal intent. The symptoms were, anxiety, lividity of countenance, and prostration; violent vomiting and purging, the dejections consisting mostly of mucus tinged with blood; skin moist, and occasional cramps; soreness of the mouth and fauces; no pain in the abdomen. The remedies used were eggs and opium. The tongue became covered with a greyish-white crust, and rigors and convulsions came on before death. The patient lived five days with these symptoms. All this time there was total suppression of urine, and all absence of salivation. The necroscopic examination shewed all the organs to be comparatively healthy, excepting the colon and rectum, which were violently inflamed and of a dark chocolate colour, the mucous membrane in many places sloughing.

Another occurred in a young woman, who attempted to swallow a cup-full of the solution of bichloride; but being resisted, only a sufficient portion entered to affect the mouth and fauces, and none was swallowed. These parts were white, swollen, and sore. The sub-maxillary glands were enlarged, but there was no ptyalism. The action was purely local, and the patient speedily recovered.

The third case of poisoning by corrosive sublimate was a suicidal act in a woman. The exact quantity taken was not known, but it was stated the greater part of two-pennyworth. Her symptoms were, extreme prostration and restlessness; absence of pain in the abdomen; violent vomiting and purging, with bloody stools; no salivation; urine naturally secreted; intense inflammation of the vulva. The patient lived eight days. The principal necroscopic appearances were in the large intestine, which was of a deep chocolate colour, with sloughing green patches of mucous membrane. The vulva, also, was in a sloughy state.

The first case of poisoning by arsenic occurred in a young woman, who took it in an attempt to commit suicide. The dose was a tea-spoonful dissolved in water. She vomited soon after spontaneously. She had pain and tenderness of the abdomen, and sense of constriction of the throat. Emetics were given, and the hydrated sesquioxide of iron: afterwards leeches to the abdomen, and magnesia mixture. Recovery ensued. The other case was in a man, also suicidal. He died soon after his admission into the hospital, having been extremely collapsed, with violent vomiting and purging. It appeared he had taken three pennyworth of arsenic. On necroscopic examination, the stomach was found to be covered with a dark-brown tenacious mucus, the rugæ being very much inflamed, and upon them situate small portions of the poison. In some bloody mucus at the pyloric end was a large quantity of arsenious acid. The whole lining membrane of the small intestines was of a pale rose-colour. The bladder and pelves of the kidneys were also injected and ecchymosed.

One case of poisoning by oxalic acid occurred in a woman, who took half-an-ounce to frighten a drunken husband. She soon vomited, and then became collapsed and speechless. The stomach-pump was used and magnesia administered. Sub-

sequent pain at scrobiculus cordis was combated by leeches, poultices, and calomel and opium. The case terminated favourably.

The other, in a girl, suicidal, who probably only took a small quantity. Sickness soon followed, with pain in the chest and abdomen, constriction of the throat, and vertigo. She had taken largely of warm water before admission. Leeches were applied to the abdomen, and magnesia mixture given internally. She soon recovered.

Of the two cases of poisoning by opium, one occurred in an old woman, as her own act. She was not seen for some time after taking the drug, which was probably about three drachms of the tincture. She stated that she vomited immediately after taking it. On admission, she was excessively drowsy, was with difficulty roused, and had almost lost the powers of motion. The pupils were contracted to a point; respiration was short, and ten per minute. Surface cold; pulse scarcely perceptible. She, however, gradually recovered from the effects of the laudanum, but died in a few days of pneumonia.

The other woman was said to have taken sixpennyworth of laudanum. She was seen very soon after its administration, when the symptoms were urgent, with great stupor, &c. The stomach pump was used, and the patient made to walk about. She rapidly recovered.

The poisoning by sugar of lead was a suicidal act in a woman, who was said to have taken a large quantity. She vomited spontaneously, and had a burning pain in the pit of the stomach and throat: she was also sleepy and stupid. A violent twisting pain in the bowels supervened, which was relieved by pressure. For some days giddiness continued, with cramps and a feeling of numbness: the abdomen, also, was painful and swollen. The symptoms gradually abated by the use of leeches locally, and magnesia mixture internally.

The case of poisoning by belladonna berries was exceedingly interesting; but the case having been mislaid we are unable to give the details.

The case of poisoning by nux vomica occurred in a girl, who said she had taken about a drachm of the powder with the intention of killing herself. She first slept two hours after taking it: vomiting then commenced, and she came to the

hospital. Her face seemed swollen and her feet cold. The vomiting continued, with spasm of the diaphragm, causing difficulty of breathing; and also of the muscles of the back, producing every now and then opisthotonos: the abdomen was tender; the bowels confined; the pupils were dilated, and vision misty: there was giddiness and pain in the head, which was occasionally jerked backwards: cramps in the leg, and difficulty in moving them voluntarily. Emetics of sulphates of zinc and copper were given, and animal charcoal as an antidote. The symptoms gradually abated, and the case terminated well.

The case of poisoning by nitric acid was slight, a tablespoonful of the dilute acid only being taken. The mouth and throat merely affected. Cured by magnesia.

TABLE OF OPERATIONS.

SUB-DIVISIONS.	Cured.		Dead.		Total.		GENERAL TOTAL.
	M.	F.	M.	F.	M.	F.	
Amputations	23	..	6	1	29	1	30
Hernia	3	6	8	1	11	7	18
Lithotomy	3	..	1	..	4	..	4
Lithotriety	2	..	..	..	2	..	2
Ligature on Arteries	3	..	..	..	3	..	3
Castration	1	..	..	..	1	..	1
Excision of Elbow	1	..	..	..	1	..	1
Jaw .....	..	3	..	..	..	3	3
Breast .....	..	8	..	1	..	9	9
Tumors	7	4	..	1	7	5	12
Miscellaneous	14	1	3	..	17	1	18
Total Results of Males and Fem.	57	22	18	4	75	26	101
Total Results	79		22		101		
Per Centage	78·21		21·78		99·99		

The amputations are divided into nine of the thigh, five of the leg, four of the arm, two of the forearm, and ten of the fingers. Of those of the thigh, three were for compound fracture, and six for diseased knee joint. Of the leg, four were for disease of the tarsus, and one for compound fracture. Of the arm, two were for compound fracture, one for disease of the elbow, and one in consequence of gangrene. Of the forearm, one at the wrist, for compound fracture of metatarsus, and the other for carcinoma of the hand: the fingers were amputated in consequence of compound fracture.

In the miscellaneous operations are included three of hare-lip, three of amputation of the penis, three operations for cancer scroti, two for cancer of lip, four for opening bladder—three by perinæum, and one by rectum, one for removing contraction of burn, one for excision of bone, and one rhinoplastic.

The other operations are already sufficiently noticed under their respective heads.

TABLE OF "ACCIDENTS," ADMITTED INTO GUY'S HOSPITAL
FROM APRIL 1846 TO MARCH 1847 INCLUSIVE.

Simple Fractures:			
Cranium	7	Ankle	1
Maxilla, superior	1	Clavicle	1
inferior	1	Shoulder	3
Malar	2	Elbow	2
Vertebrae	3	Thumb	2
Sternum	1		11
Clavicle	4	Burns	40
Scapula	1	Scalds	15
Ribs	22	Injuries to Head and Face	6
Humerus	15	Eye	6
Olecranon	3	Back	21
Radius and Ulna	9	Chest	8
Radius	8	Abdomen	2
Pelvis	5	Pelvis	3
Femur	47	Extremities	16
Patella	11	Joints	48
Tibia and Fibula	28		110
Tibia	25		
Fibula	20	Wounds:	
Metatarsus	3	Incised	6
	216	Lacerated and Contused	25
Compound Fractures:		Punctured	3
Cranium	2	Gunshot	2
Humerus	6	Scalp	33
Olecranon	1	Bite	2
Radius and Ulna	3	Cut Throat	7
Radius	1		78
Ulna	1	Concussion of Brain	13
Metacarpus	14	Spine	6
Pelvis	1	Epilepsy	1
Femur	1	Drunkenness	1
Tibia and Fibula	9	Tetanus	1
Tibia	5	Epistaxis	2
Metatarsus	3	Retention of Urine	40
	47	Poisoning	16
Dislocations:		Hernia	46
Hip	2		643

SELECT CLINICAL REPORTS.

CASES AND OBSERVATIONS ILLUSTRATIVE OF THE ETIOLOGY OF ENLARGEMENT OF THE HEART.

BY G. H. BARLOW, M.D.

THE following cases have been selected principally with a view to the illustration of a certain series of pathological sequences, and therefore it will be my object, in the observations which I may make upon them, to direct attention mainly to those points which they appear collectively to illustrate; at the same time I willingly subject myself to the imputation of a want of method, rather than forego the advantage of the instruction which may be derived from considering the special instruction which each may appear to convey when considered by itself.

Now there are several diseases, concerning which it is agreed by all who are conversant with the principles of medicine, that, when thoroughly established, they are beyond its controul, as regards the prospect of their removal. Such diseases are not, however, the less worthy of the grave consideration of the conscientious practitioner, or earnest student of medicine. Should not, rather, the very circumstance of their tending to a condition in which art is powerless, furnish a cogent reason for endeavouring to trace the steps by which that condition is arrived at, in order that the mischief may be averted; or, if that be impossible, its progress checked before it has advanced beyond the reach of the means at our disposal?

Amongst such may be reckoned many of the so-called organic diseases of the heart, especially enlargement of that organ; a few illustrations of which I purpose to make the subject of the present communication.

Before 'proceeding further, I would remark that I use the term "enlargement," not only because I always prefer an

English word where one can be found to suit my purpose; but also because it may, without impropriety, be made to include both hypertrophy and dilatation; lesions which, though essentially different, are so commonly united, that it is often difficult to treat of them separately.

I. Now, in the first place, it is well known that increase of function in muscular structures produces increase of nutrition, provided there be not, from other causes, any deficiency in the activity of this latter process; but the function of the muscular structure of the heart is to empty the cavities of that organ, and the natural stimulus of the muscular walls of the heart is the blood in those cavities. Increase in the quantity of the blood in any cavity of the heart, or obstruction to its exit from that cavity, must therefore, *per se*, tend to produce increased nutrition, or hypertrophy of the walls of that cavity.

This accumulation may arise from two classes of causes:

1. Obstruction arising in the orifices of the heart, or in the remoter course of the circulation.
2. Obstruction arising from changes in the quantity or physical properties of the blood which is to pass through these orifices and canals.

II. When, however, there is considerable deficiency in the activity of the nutritive function, (which must sooner or later take place where there is long continued visceral disease,) the hypertrophy, which is the natural, and, within certain limits, the compensating result of increase in quantity of blood within the heart, and also of obstruction to its passage from it, cannot ensue. The result of this is, that the cavity thus distended yields to the increased distending force, and becomes enlarged, or, as we term it, dilated. It is also evident that the same thing must ensue where there is defective strength of the muscular walls of the heart, independently of any obstruction to the exit of the blood from its cavities. Dilatation, then, may arise from two classes of causes:

1. Increased quantity of blood in the cavities of the heart.
2. Insufficiency of strength in the muscular walls of the heart to overcome the ordinary distending force.

Now it will at once be seen, that the former of these includes both the conditions which were assigned as tending to

produce hypertrophy; the result, whether hypertrophy or dilatation, or both, being determined by the degree of activity of the nutritive function. Consequently, when we speak of enlargement in the more comprehensive sense in which it is used above, we may reduce the causes which tend to produce it to three classes, viz.

1. Obstruction from changes in the orifices of the heart, or in the course of the circulation.
2. Obstruction arising from changes in the quantity or physical properties of the blood.
3. Deficiency of strength in the parietes of the heart itself.

Of the first class of causes, namely, those arising from mechanical obstruction, I may here remark, that the proposition is now pretty generally assented to, that diseases of the heart are propagated in a direction contrary to the course of the circulation; *e.g.* when there is impediment in the aortic orifice, there ensues hypertrophy or dilatation, or both, of the left ventricle. This proposition is, I say, generally assented to, though not universally, since it has been objected, by a distinguished physician*, that valvular disease cannot be the cause of hypertrophy, since we frequently find hypertrophy without valvular disease, though we rarely or never find valvular disease without hypertrophy or dilatation; and therefore that it is probable, that where they co-exist the hypertrophy is the cause of the valvular disease, and not the valvular disease of the hypertrophy; an argument which is, I presume, based upon the principle, that, in pathology, we may have the cause without the effect, but cannot have the effect without the cause. And there would be much force in this objection, had it been assumed, on the other hand, that valvular disease is the *unique* cause of hypertrophy or dilatation. The fallacy lies in the common error of mistaking the special for the general. Thus the general proposition is, that excessive distention of any cavity of the heart produces hypertrophy or dilatation of that cavity; valvular disease being only a special instance of obstruction producing that distention. If, therefore, it can be shewn, that, in cases where hypertrophy existed without valvular disease, there have

* Medical Gazette for Sept. 23, 1839.

existed obstructions to the circulation elsewhere, or other causes of distention, the objection falls to the ground.*

As I propose to begin from the right ventricle, it may be well to recall to mind these well-known facts—that obstruction to the return of blood to the right ventricle gives rise to hypertrophy and dilatation of the right auricle; engorgement and myristication of the liver; obstruction to the functions of that organ, and to the portal circulation, and consequent ascites; engorgement of the cavæ, especially the ascending; anasarca; engorgement of the kidneys, and lesion of function of those organs.

The most immediate, though by no means the most frequent cause of obstruction to the return of the blood to the right ventricle, is disease of the tricuspid valve. This affection is exceedingly rare, and the diagnosis very obscure: its effects, as regards the etiology of cardiac disease, must be, that there will be hypertrophy and dilatation of the right auricle, the ventricle being but little affected, although there will be the other consequences of venous congestion enumerated above. It is indeed true, that we probably have these effects commonly associated with an imperfection of the tricuspid valve, allowing some regurgitation through it. This, however, does not arise from primary lesion of the valve itself, but is dependent upon that imperfect closure of it which was shewn by the late Mr. T. W. King to take place under such circumstances, and which was believed by that gentleman to be a conservative provision of nature.†

Passing onwards from the right ventricle, we come to the sigmoid valves of the pulmonary artery. Although the diagnosis of this comparatively rare disease is still extremely obscure, yet its effects in producing hypertrophy and dilata-

* I do not here mean to assert that hypertrophy may not arise from active disease of the cavities of the heart itself, though such a thing is, I believe, rare; or that it may not, to a certain extent, be produced *immediately* by inflammation of the pericardium or endocardium, according to an opinion expressed by Dr. Alison, and maintained by Dr. Munk. These are questions upon which I am not now called to give an opinion. The spontaneous hypertrophy of the muscular walls of the heart is, I presume, as likely to happen as that of the glutei muscles, and no more so.

† Vide Guy's Hospital Reports, Vol. II. p. 104 et seq.

tion of the right ventricle, with the consequent effects, are not questioned.

Disease of the pulmonary arteries and their branches, though not a very common occurrence, will no doubt produce engorgement of the right ventricle, and its consequences; and I have met myself with one instance in which this took place from thickening and rigidity of the coats of those vessels extending into their smaller ramifications. I have not, however, had opportunities sufficient to enable me to speak with precision as to the origin and mode of termination of such affections. I may here observe, that although I shall presently have occasion to allude to narrowing, or rather *narrowness*, of the pulmonary artery, I do not recognise such a condition as a *primarily* morbid one, or as an efficient cause of obstruction, provided the coats of the artery are structurally healthy: it is rather an effect and a sign of perverted circulation, than in itself a disturbing cause.

Affections of the lungs and air passages themselves come next in the order of the circulation, and are among the most frequent causes of enlargement of the right ventricle and auricle, and its consequences. This is well known in regard to bronchitis. Yet, as I regard these as typical cases, so to speak, I here insert one which occurred under my care in Guy's Hospital.

CASE 11.

MARIA J—, aged 28, admitted, under my care, into Dorcas Ward, Nov. 5, 1845. This woman first came under my notice in the summer of 1835, when she was my patient at the Surrey Dispensary. She had been previously treated by my friend Mr. H. Sterry for acute inflammation in the chest; but still presented signs of pleuro-pneumonia with bronchitis on the right side; on which there was also noticed a large cavernous or amphoric breathing and voice under the scapula. The only written record which I have of her condition at that time, is a memorandum, which stands thus:—
“ Maria —, aged about 17; pleuro-peripneumony on
“ the left side, with bronchitis; and under the scapula of the
“ same side amphoric or bottle-like breathing, with gurgling
“ and well-marked metallic tinkling. (May not this arise
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“from dilated tubes as likely as from perforation from the pleura into the lung? I think more so.)” She continued to improve under a plan of treatment, the same, as far as I could ascertain, which had been commenced by Mr. Sterry; but the cavernous sound remained, though not, I believe, the tinkling. I again saw her about two years afterwards, when she was suffering from an attack of well-marked bronchitis, with considerable dyspnoea, lividity, and some emaciation. The cavernous sounds were as well marked as on the former occasion, or even more so, and coughing or speaking produced a loud metallic ring: the lung generally appeared permeable to air, but mucous rattles, large and small, were general. The time which had elapsed since the former attack, without any flattening of the chest, or more extended disorganization of the lung, having occurred, together with the situation of the cavernous sounds, led me to the conclusion that they could not be produced either by a pneumothorax or by a phthisical cavity, and were therefore dependent upon extreme dilatation of the bronchial tubes near the posterior surface of the lower lobe of the lung. The expectoration, during the greater part of the second illness, was muco-purulent; presenting, however, far more of the appearance of pus than mucus. She recovered so far as to regain her flesh, strength, and good looks; but is stated never to have been long free from cough. She married, and went to reside at Manchester, where she had four children; but in the autumn of 1845 became much worse, and was brought to London, and admitted into the hospital, as stated above, Nov. 5, 1845.

On admission, her face was flushed, and rather dusky; the extremities cold, and rather livid; nails clavate: the surface of the body elsewhere was warm and moist. She complained of pain between the scapulæ; had a frequent cough, and expectorated a large quantity of muco-purulent matter. The respiration was 40 in a minute. The form of the chest was natural, and it was throughout resonant upon percussion, excepting that the præcordial dulness was too extensive, and extended considerably to the right of the sternum. A fine moist crepitation, and large mucous rattles were heard over the whole of both lungs, the latter being most marked

posteriorly. The impulse of the heart was healthy, and its rhythm regular: a rough systolic murmur was heard over the apex.

The abdomen was tumid, and the liver could be distinctly felt some way below the margin of the ribs, on the right side. Tongue coated, but dark-red at the edges: urine dark and scanty.

The treatment, during the two weeks which she lived after her admission, consisted of the application of a blister to the chest; conium with a little ipecacuanha; gentle diaphoretics; and, latterly, wine and stimulating expectorants: but little relief, however, was afforded her; and the dyspnœa and lividity gradually increased; the pulse became more and more feeble; and she died on the 20th.

SECTIO CADAVERIS, twenty-three hours after death.—Both lungs were exceedingly congested, fleshy, and very slightly crepitant at the posterior part, the anterior containing more air; the borders were emphysematous. The bronchial tubes were very much dilated, of a dark chocolate colour, and inelastic: this dilatation was most conspicuous near the posterior surface of the lower lobes; and was so excessive on the right side, that a transverse section exposed a large cluster of tubes in almost immediate apposition to each other, into which the fingers might readily be inserted, as into a glove. The smaller and less distended tubes were generally filled with a pale semi-solid matter; a section of these tubes, presenting the appearance described by Dr. Addison as very liable to be mistaken for tubercles.* The heart was of large size, having a fibrinous patch on the anterior surface above the apex: the right auricle was much dilated and attenuated, having a large mass of coagulated blood occupying the appendix auriculæ, consisting of alternate layers of fibrin and red blood. The fossa ovalis was enlarged; the membranes closing the foramen ovale being so much attenuated as to be converted into a kind of pouch, having its concavity towards the right auricle: two or three openings existed in its border, just large enough to allow the insertion of a

* Guy's Hospital Reports, Second Series, Vol. III. p. 18., and Plate III. at p. 34.

bristle, and probably permitting the passage of a little blood into the left auricle. The right ventricle was much dilated and hypertrophied: the tricuspid valves healthy. The left auricle and ventricle were smaller than natural; the columnæ carniæ and chordæ tendineæ were atrophied and shortened, preventing the perfect closure of the mitral valve under great distention of the ventricle. One of the curtains of the valve was roughened by fibrinous deposit upon it. The aortic sigmoids were small. The liver was large, congested, and myristicated. Both kidneys were large and congested, and the tunics were partially adherent. The uterus was impregnated; about the seventh week of gestation.

Before proceeding to notice the circumstances in this case which bear directly upon the express object of this communication, I would call attention to the character of the primary disease—a disease which has been frequently mistaken, sometimes for phthisis, and sometimes for empyema with pneumothorax; but which, though not unattended with danger, and, if unrestrained and of great extent, tending surely to destroy life, does so by a process different from that which takes place in either of the last-named diseases, and is, besides, more amenable to remedies.

The similarity of the stethoscopic phenomena in this disease and in phthisis have been accurately pointed out by Dr. Addison in the last Volume of these Reports.* And in the same manner as a large vomical cavity, when near the surface of the lung, sometimes presents the auscultatory signs of a pneumothorax, the same must occasionally occur when a large cavity, simulating a vomica, is formed in the same situation by great dilatation of the bronchial tubes.

The situation of the cavernous sounds, in this case, was strongly opposed to the belief that it could be a phthisical cavity, there being every reason to believe that the superior portions of the lungs were free from tubercles. The diagnosis between dilated tubes and a circumscribed pneumothorax was not, however, so readily made at first, as

* Guy's Hospital Reports, Second Series, Vol. IV. pp. 9—12. 15, 16.

the disease commenced with an acute attack. The subsequent progress of the case, however, tended much to remove the difficulty, though I confess that it was not until her second illness that my doubts were quite cleared up; the more so, no doubt, from having, in the meantime, read the excellent description of dilatation of the tubes by Dr. Stokes, in his admirable work on Diseases of the Chest, which was not extant when I first saw this patient. The character of the expectoration, upon the occasion of her second illness, also tended to confirm the diagnosis; for though highly purulent, it was nummular and very foetid, with a peculiar earthy odour; a sputa which I believe to belong to this affection much more than to empyema with pneumothorax, or even than to phthisis. The progress of the disease, as regards the lungs, was, I presumed, in the first instance, inflammation of the tubes giving rise to a diminution of elasticity and contractility.* The changes in the other portions of the lungs were little more than the ordinary result of chronic bronchitis, from which it appears she was never free after her second illness.

With regard to the heart, there are two circumstances deserving special notice:

1. The condition of the fossa ovalis, which shews the great excess of pressure upon the right side of the auricular septum above that upon the left.

2. The comparative condition of the two sides of the heart, the right auricle being described, in the report with which I was favoured by Mr. Mitchel, as much dilated and attenuated, and the right ventricle as dilated and hypertrophied. Now the obstruction to the passage of the blood was in the lungs; that is, between the two sides of the heart. We see, then, that the hypertrophy or dilatation takes place in the cavities of the heart which lie immediately behind the seat of the obstruction, whilst those which lie immediately beyond it may be comparatively unaffected, or affected in the opposite way, for the left auricle and ventricle were in this case small.

The same results are prone to ensue from other diseases of the lungs or their appendages, as extensive pneumonic

* Stokes "On Diseases of the Chest," p. 151.

induration, pleuritic effusion (in young subjects especially), and contractions of the chest the result of pleurisy. As regards these affections, however, they may not often continue sufficiently long, or the life of the patient may be cut short by the primary disease, so that we do not very frequently see them give rise to enlargement of the right side of the heart, and its consequences, in their fullest extent: still, I have seen several such cases, and have for some years had a notable instance under my care, in which it would be difficult to ascribe any other cause for the distention of the right heart, than pneumonic induration of the lungs.

There is, again, another condition of the respiratory organs, which gives rise to the above consequences in their fullest extent, and to which I attach much importance as regards prophylaxis and the physical education of children—*defective developement of the lungs, independently, to all appearance, of any antecedent structural lesion of those organs.* Now, I have watched for a period of years, and subsequently inspected several cases (some of which I have published) of young persons, mostly rather past the ordinary age of puberty, in whom these morbid changes have gradually developed themselves; and in whom, upon examination after death, there have been found hypertrophy and dilatation of the right side of the heart, with its ordinary consequences—a small chest (as regards the capacity); small trachea; small aorta; frequently, but not universally, a small pulmonary artery, which latter, however, was present in the most unexceptionable cases; small, tough, and fleshy lungs.

I have elsewhere* inquired into the different sequences of morbid action, which most probably occurred in these cases: I therefore content myself with stating what appears to be the most probable—defective developement of the lungs and air passages; obstructed pulmonary circulation; engorgement of the right heart; engorgement of the liver; ascites; engorgement of the venæ cavæ; anasarca; death. The question as to whether the diminished size of the trachea, in those cases where it was observed, was to be regarded as the cause or consequence of the defective expansion of the lungs I have

* See Guy's Hospital Reports, First Series, Vol. VI. p. 236 et seq.

considered in a former communication;* and I have little to add to what I have there stated, further than that my subsequent experience has not enabled me to decide the point to my own satisfaction. I wish, however, thus far to modify the opinion expressed in the essay alluded to. I there stated, that where the small trachea and small lungs were observed to co-exist, the latter was to be regarded as the consequence of the former, upon the ground that obstruction of the air passages has been known to produce atrophy of the lungs, as in the case quoted by Dr. Stokes from Reynaud; and because, in several cases where there has been engorgement of the right heart, either from disease of the left auriculo-ventricular opening, or from compression of the lungs by narrowing of the thorax, we have not found diminished calibre of the air passages. Subsequent experience has, however, furnished me with instances in young subjects, wherein the trachea has been observed to be narrow, and in which there has been defective expansion of the lungs, dependent upon causes within† the chest, though I have not observed the same consequence where the thoracic disease has commenced after adult age. The correct view of the matter appears, then, to be this; that as, on the one hand, the trachea is to be regarded as the afferent duct of those great glands, the lungs, conveying to them their natural stimulus, atmospheric air; so, on the other, it is the efferent duct of the same organs, carrying from them the excretion which it is their function to eliminate: therefore, although the obstruction or morbid contraction of the trachea, occurring before growth is completed, must check the developement of the lungs; diminished developement of the latter must arrest that of the former. Hence, when there is obstruction of the trachea from external pressure, or from disease manifestly originating in the walls of that tube (in the young subject), I should regard it as the cause of the defective expansion of the lungs; but where there is no such manifest cause for narrowing of the trachea, I should be undecided as to whether to regard the defective size of the lungs, or the narrowness of

* Guy's Hospital Reports, First Series, Vol. VI. p. 251.

† Ibid. Vol. VII. p. 470 et seq.

trachea, as the primary lesion; or I should perhaps be more inclined to consider them as the joint effect of some common cause.

In the case which follows it may not, perhaps, be very easy to decide at once whether the origin of the morbid changes consisted primarily in defective expansion of the lungs.

CASE 12.

Reported by Mr. T. CALLAWAY, Jun., and Mr. M. JOHNSON.

JANE —, aged 18, admitted into the Summer Clinical Ward, under my care, June 11, 1845; residing at Peckham: a girl of fair complexion, and light brown hair. She states that her parents are living, and healthy. She has had the measles, whooping-cough, small-pox, and scarlatina, (the last three months ago,) and accompanied with what was said to be inflammation of the lungs. At 15 years of age she first menstruated: she stated her health to have been good. [Her mother, however, informed me that she had been short-breathed from childhood.] When, as the sequelæ of the fever, she had pain in the limbs, dyspnœa, sickness of a morning, and sometimes after eating, pain between the shoulders and in the calves of the legs. These symptoms, accompanied with palpitation of the heart, have continued up to the time of her admission: her legs also have been, and still are, swollen.

Chest apparently well formed; mammae large, with dark areolæ; left lung dull towards the base; universal bronchitis of small tubes; right lung condensed also, and bronchitic; præcordial dulness and impulse too great; heart's action regular; a soft systolic murmur over the tricuspid valves; a slight murmur also over the mitral valve, passing, as it were, round to the left side.

Tongue moist and furred; pulse 91, small, regular, and quick; urine scanty, and loaded with urates, not albuminous; appetite bad: breath fœtid [or rather sour]; liver to be felt as low down as the umbilicus. She lies best on the left side. Skin moist. She has never menstruated regularly, and has had no appearance for some months.

She was ordered some rhubarb and calomel immediately; and a mixture containing half an ounce of acetate of ammo-

nia and twenty minims of spir. æth. nit. three times a day. Also two of the squill and grey oxide pills of the hospital every night.*

On the 10th a blister was applied over the sternum; and on the 24th it is stated that her breathing had been easier for the last week, but she complained of considerable pain between the shoulders.

25. Much the same: urine scanty.

Pulv. Digitalis. Camphoræ rasæ āā gr. i. Hyd. Chlorid. gr. fs.

Ext. Hyoscyam. gr. ij. m. fiat. Pil. nocte maneque sumend.

Rep. Mist.

26. The urine was examined, and found to be slightly coaguable by heat and by nitric acid, sp. gr. 1030, loaded with urates.

27. Little alteration. She has complained of sickness after taking the pills. Abdomen swollen, apparently from peritoneal effusion: urine more abundant.

Pot. Iodid. gr. iij. Sp. Æth. Nit. m xx. ex Mist. Camph. t. d. s.

Hyd. c̄ Cret. gr. iij. Pulv. Scillæ gr. i. o. n. s.

July 1. Rather better. Upon examining the urine there was found a large deposit of uric acid: no albumen. Sp. gr. 1023 at the temperature of 66° of Fahrenheit. The quantity passed in twenty-four hours was twenty-four ounces.

2. Pulv. Jalapæ C. ʒij. st.

Pot. Acetat. ʒi. Sp. Æth. Nit. gr. fs. Sp. Juniperi C. ʒi. ex

Infus. Scopar. ter die.

Repetantur Pulveres.

3. She suffered much from orthopnœa during the night.

Morphiæ Hydrochlor. gr. ¼. Camphoræ gr. i. Ext Hyos. gr. iij.

o. n.—Pergat.

4. She slept better during the night; but there is to-day much lividity of the face, and the lips are extremely congested.

7. She appears better: her face is less pale and less haggard. Eight ounces of her urine contained rather more than half a grain of free uric acid, but no albumen.

10. Much the same.

* Three of these pills contain one grain of grey oxide, and twelve of compound squill pill.

Pot. Acetat. ℥i. Sp. Æth. Sulph. Co. m xx. ex Mist. Camph. t. d. s.
Rep. Pil. o. n.

11. Ten ounces of urine passed in twenty-four hours ; contained some albumen, a deposit of urates, but no free uric acid.

12. Adde Acid. Hydrocyan. (Scheel.) m ifs. sing. dos. mist.

13. Rather better, but her lips are livid.

14. She says she feels worse to-day, though there is not so much lividity of the countenance. In the evening she was sitting up in a chair, with great distress of breathing, and a general dusky hue of the countenance.

15. She left the hospital feeling much worse.

17. Dr. Barlow visited her at her own home at Peckham. She had the appearance of being moribund: pulse scarcely perceptible: great and painful tension of the legs.

19. Dr. Barlow again visited her. She was extremely emaciated. The dyspnœa did not seem so extensive, but there was incipient gangrene of the legs. A warm spirit lotion was recommended for the legs, and a small quantity of wine to be occasionally given. She expressed a wish to return to the hospital, but was too ill for removal. She gradually got worse, and died in the evening of the 20th.

The body was inspected the following day by Dr. Barlow and Mr. M. Johnson.

Decomposition appeared far advanced ; and much of the effusion had undergone exosmosis.

The capacity of the chest was small: there was considerable effusion in the pleuræ, chiefly in the right. The lower lobe of the left lung was indurated from previous lesion ; but the right was crepitant, and gave evidence of capillary bronchitis. There was an apoplectic clot in each lung. The right side of the heart was greatly enlarged, and distended with dark, loose, coagula ; the ventricle very large, and its walls rather thick ; the auricle very large, and its walls thinned. The left side of the heart appeared of normal size: all the valves were healthy. The pulmonary artery, as well as the aortic, small, but healthy. The trachea appeared rather small, but was not carefully measured. There was a large quantity of serum in the peritoneal cavity. The liver

was much enlarged and myristicated. The kidneys were hard and somewhat congested.

In the above case it is not, perhaps, easy to decide whether the chief cause of the mischief was to be referred to the primary defective expansion of the lungs, or to the injury inflicted upon the lungs and air passages by the inflammatory affection from which the patient was stated to have suffered a few months before her death, and of which traces were found upon inspection. I am more inclined to refer it principally to the former, since we do not commonly find the same amount of lung disease producing so great obstruction to the circulation through the right side of the heart; whereas, the chest was manifestly of small capacity, and there was a history of shortness of breath from childhood. It is, indeed, stated in the first report that her chest was apparently well formed; but upon removing the muscles and integuments after death, the narrowness of the bony thorax was conspicuous. And this leads me to remark, that, in young females with rather large mammae, the chest is often, upon a superficial examination, supposed to be well formed, although, by a careful exploration by the fingers, it may be discovered that the ribs are bent backwards almost at right angles to the cartilages, so as to give to the bony thorax the form commonly termed "pigeon-breasted," and thereby greatly diminish its capacity.

The smallness of the pulmonary artery also leads me to believe that there had been defective expansion of the lungs from childhood. The narrowness of that vessel is not to be regarded as the primary cause of the obstruction to the circulation; since every analogy which is to be drawn from arteries in the other parts of the body tends to shew, that where it is structurally healthy the calibre of the artery is regulated by the quantity of blood which it is required to convey; and accordingly we often find an artery diminishing when there is a diminished capacity for blood in the part which it supplies, even though this diminished capacity may be associated with an impediment to the circulation, distal, as regards the heart, to the artery, and thereby subject it to mechanical distention. This is especially evidenced in those parts which undergo a temporary or periodical increase of

function, as, the mammae, the testes, the uterus. The circumstances, in truth, which determine the adaptation of an artery to the condition of the part which it nourishes, and the quantity of blood which it is to convey, are more physiological than mechanical.

Where, however, there is a mechanical obstruction tergal to an artery, we have a small vessel, from the small quantity of blood which it can receive, as was the case with the aorta in the present instance. These two vessels, then, present us with the same result, brought about in rather different modes: the former was small, because the organ to which it conveyed the blood was in a state of defective activity; it was small, that is to say, from a physiological or vital obstruction (or, what is the same thing, a defect of the natural stimulus) *distal* to it: the latter was small, because it could receive but little blood, there being obstruction to the circulation through the lungs, owing to the diminution in the quantity of blood passing through the left heart; the aorta was small, that is to say, owing to an obstruction *tergal* to it.

This will be still further illustrated in speaking of obstructive disease of the left auriculo-ventricular orifice.

There is, again, another affection, in connection with which I have frequently met with a state of things precisely similar to that which I have just described; and that is, adhesion of the pericardium occurring before growth is completed. In one very remarkable instance (published in a former Number of this work), where I had the opportunity of watching the patient for a period of several years, there had been pericarditis about the age of 12, continued dyspnœa, some alleviation about the time at which menstruation was established, subsequent relapse, and death. Small lungs and trachea, small aorta, small pulmonary artery, enlargement of the right heart, and the consequences of obstructed circulation through it, all the valves being perfectly healthy. I would here remark, that the adhesion of the pericardium could not have been the immediate cause either of the hypertrophy or of the dilatation, since the adhesion was on the surface of the left ventricle, and the hypertrophy and dilatation were almost wholly of the right ventricle and auricle.

The explanation, as appears to me, must be sought for in the impediment afforded to the respiratory movements, especially the ascent and descent of the diaphragm; whereby, in the young subject, the developement of the lungs is impeded, and the case rendered similar to those included in the former category.

Passing onwards along the course of the circulation, we come to the left auriculo-ventricular orifice, obstructive disease of which is too well known, and too frequent a cause of enlargement of the right heart to require any express illustration here: I need only remark, that in such cases we find the evidence of the greatest distention in the left auricle, the cavity immediately tergal to the seat of the obstruction, which obstruction is propagated thence through the lungs to the right side of the heart. The following case is perhaps worthy of record, as an instance of the joint effects of adherent pericardium and diseased mitral valve upon the heart, lungs, and systemic circulation.

CASE 13.

Reported by Mr. R. FINCH.

ISABELLA —, aged 30, admitted into Lydia Ward, under my care, December 9, 1846: is married; lately resident in the Waterloo Road, Lambeth. Has lived in America for twelve years, and returned to England in June last. She has lived well, but her general health has not been good. She had acute rheumatism two years ago, with, probably, disease of the heart, followed by anasarca of her lower extremities. Since this period she has suffered from palpitation and dyspnœa upon exertion.

The present illness commenced six months ago, on her return from America, with pain in the chest and increased palpitation. About a fortnight ago her legs began to swell: her abdomen then became enlarged, and afterwards her wrists anasarcous. Within the last fourteen days she has complained of great nausea, and has vomited several times: has had cough and pain in the chest, and expectoration of thick, puriform mucus.

On admission, surface cold, especially the extremities,

with an icteric tinge much marked on the face: skin dry; tongue pale and furred; pulse very small and irregular, scarcely to be felt; conjunctivæ yellow; no appetite; considerable thirst; bowels much relaxed, stools dark-coloured and offensive. There is bronchitis generally of both sides of the chest, masking the sounds of the heart. This, together with an unhealed blister on the chest, renders it very difficult at present to form an exact opinion of the state of the heart; but, upon careful examination, the action of that organ is observed to be irregular, and there appears to be a systolic murmur over the mitral valve. On examining the abdomen, the liver can be felt extending a considerable way below the margin of the ribs on the right side. The chest is narrow and deformed; the movement of the diaphragm very slight.—Ordered,

Spir. Æth. Sulph. Co. Spir. Æth. Nit. āā m xx. ex Julep. Ammon.

Warm-bottles to the feet.—Four ounces of gin.

Dec. 10. The surface is much warmer, and the pulse rather stronger: her bowels are considerably relaxed, and some mist. cretæ has been given her. She has passed a very little high-coloured urine. More difficulty in breathing; was very restless during the night. She has, in a great measure, lost her voice.

Spir. Æth. Sulph. Co. Spir. Æth. Nit. āā m xx. ex Mist Camph. 4tis horis.

11. She had no sleep, and spent the night sitting up in bed, with great dyspnœa. Bowels more regular; pulse more perceptible; tongue cleaner.

Pulv Ipecac. Co. gr. viij. omni nocte.—Pergat.

12. Complains of thirst; gets no sleep at night; the ulcer on the chest is healing; the cough continues, but the expectation is diminished; the feet are warm; the anasarca of the legs increased; bowels still relaxed; evacuations dark, mucous, and apparently tinged with blood; scarcely any urine passed.

14. Has vomited several times soon after taking food. Her bowels continue much relaxed; legs more œdematous, and their integuments much distended. On examining the

heart, which her condition does not allow of being thoroughly done, there is a loud double sound over the situation of the mitral valves (like a water mill): the aortic valves cannot be satisfactorily examined on account of the ulcer; but there appears to be no murmur propagated along the ascending aorta: pulse weak, and very irregular. [Diagnosis—Contraction of the left auriculo-ventricular orifice; adherent pericardium?]

Mist. Salin. Efferves. \bar{c} . Sp. \AA eth. Nit. \mathfrak{z} fs. 4tis horis.

Hydr. \bar{c} Cret. gr. iifs. nocte maneque.

Rep. Pulv. Ipecac. Co.

Port-wine, six ounces daily.

15. Passes little or no urine; bowels still relaxed; dejections dark and offensive; countenance less anxious and less sallow; extremities warm.

Sp. \AA eth. Nit. m xx. Vin. Opii. m iij. Mist. Cretæ \mathfrak{z} fs. Aq. Cinnam. \mathfrak{z} ifs. 4tis horis.

Rep. Pil.

17. Much in the same condition; diarrhœa not so violent; pulse less irregular; tongue clean.

18. She has now no cough, or expectoration, or pain in the chest; passes no more urine; surface warm; no appetite.

19. Is restless during the day, and gets no sleep at night.

Pot. Bicarb. gr. xv. Sp. \AA eth. Nit. \mathfrak{z} fs. Tinct. Lupuli \mathfrak{z} fs. ex aq. distillat. 4tis horis.

Rep. Pil.

21. Bowels still much relaxed; tongue clean.

Enema. Amyli \bar{c} Syrupi Papav. \mathfrak{z} i.—P.

22. Much the same.

Appl. Empl. Canth. inter scap.—P.

The patient continued in the same state, when great dyspnœa came on: she soon afterwards became delirious, and continued so during the night, and died exhausted at six A.M. Dec. 23.

SECTIO CADAVERIS, seven hours after death.—Chest deformed, narrow. Pericardium universally adherent. Heart generally rather large; the right side full of dark blood; a clot in the auricle: tricuspid valve narrow, and the membrane

apparently inflamed: left auricle very large, and distended; the left ventricle the least so of all the cavities of the heart: the mitral valve much thickened; the aperture so much narrowed as scarcely to admit the tip of the little finger: aortic valves rigid, but apparently not imperfect. Lungs congested, œdematous, emphysematous. Old pleurisy of left lung, the pleura pulmonalis being in parts almost cartilaginous, and the lungs disfigured by puckering. Abdomen—no ascites. Liver much congested, myristicated, extending about two-and-a-half inches below the ribs. Spleen large and hard. Stomach—mucous membrane remarkably congested, and having a granular appearance. The same was the case in the abdomen, and through great part of the canal, the sub-mucous areolar tissue being apparently œdematous. The same condition was also observed in the colon, the mucous membrane of which was, here and there, dipthiritic. Kidneys much congested and hard; tunics very adherent; cortical structure granular and contracted. Uterus—walls thickened; os and cervix ulcerated. Bladder contracted, empty.

Although the object of this communication is not so much the diagnosis as the pathology of the affections of which it treats, I may be allowed here to observe, that, from the irregularity of the pulse,—the manifest obstruction to the pulmonary circulation,—and the auscultatory sounds, there could be little or no difficulty in pronouncing, not only that there was organic disease of the mitral valve, but also that its orifice was much contracted. The diagnosis, as regarded the pericardium, was not so easy; and was at the time regarded rather as conjectural, which, I believe, must always be the case where we suspect old lesion of that membrane. It was, however, considered, that, as is observed by M. Beau, a diastolic murmur over the surface of the heart, which cannot be traced along the aorta, is pretty certainly attributable to exocardial rather than to endocardial disease.

The fact, that in this case there was not the ascites so frequently found in connection with the same primary disease, is worthy of remark, though not difficult of explanation. It generally happens in such cases that the portal circulation

becoming obstructed in the manner already described, the engorged veins are relieved by an exudation into the serous membrane: in this case, however, the exudation took place by means of the mucous membrane, the condition of the sub-mucous areolar tissue of which has been already noticed, and gave rise to the sickness and diarrhœa. Had this state of things been confined to the lower portion of the canal, it might have been the means of prolonging, rather than of shortening life. The diminished secretion of urine belongs, as I have elsewhere shewn, to all cases of obstructed circulation through the right heart.

In the second of the preceding cases, all of which occurred in females, we perceive that menstruation was irregular, and had for some time entirely ceased; a circumstance which it is believed tended much to accelerate the progress of the disease. In the third case the same thing occurred, and the patient was, moreover, of an age at which the menstrual function often begins to decline. In the first, again (Case 11), there had been a suppression of the catamenia in consequence of pregnancy. The probable reason for the apparent aggravation, under such circumstances, of the distress arising from obstruction to the pulmonary function I have elsewhere pointed out; and, were it necessary, I could multiply instances which tend to confirm the observations already made.* The result of my experience upon this point is as follows:—That such cases prove fatal most commonly either about the age of puberty, without the occurrence of menstruation; or, that function having been established, an aggravation, often a fatal one, takes place in connection with its suppression; or the patient, having arrived at the age at which the catamenia commonly cease, death takes place in the manner above described, although the causes of pulmonary obstruction may have existed from youth.

We come next to the orifice of the aorta and its valves, the effects of which upon the left ventricle have been well illustrated by Dr. Chevers in a former Number of this work.† Such cases not unfrequently, as is well known, prove fatal by sudden syncope; the left ventricle becoming, after, perhaps, some undue effort—it may be that of rising in bed, or going

* Vide *Gulstonian Lectures in Medical Gazette*, 1844.

† First Series, Vol. VII. p. 387.

to the night-chair or the water-closet—over distended, and unable to contract upon its contents. The number of such patients who have died in, or immediately after leaving, the water-closet would, I believe, be found to be not inconsiderable.

There is, however, another termination of such cases, the mode of which has not, as far as I am aware, been expressly noted by any preceding author; viz. that it sometimes happens that the dilatation of the left ventricle thus produced, is greatly disproportionate to the hypertrophy; and consequently it contracts so feebly upon its contents that but very little blood is thrown into the aorta; the effect of which must be, that though the cavity of the left ventricle is large, it can receive but little blood. Engorgement of the left auricle then ensues, and the condition of the patient is rendered, in many respects, the same as if there were disease of the mitral valve; and death takes place, not as would be the case directly from loss of power in the left ventricle, by syncope, but by engorgement of the lungs, right heart, liver, &c., terminating in death by apnœa.*

The following case well illustrates the effects of disease of the aortic sigmoids upon the pulmonary circulation and venous system.

CASE 14.

Reported by Mr. J. H. MITCHELL.

Diseased Aortic Valves—Both Ventricles enlarged—Gorged Liver—Ascites—Anasarca.

SAMUEL —, aged 36, a tall muscular man, by occupation a cooper, admitted into Lazarus Ward, under the care of Dr. Barlow, October 15, 1845. His habits had been intemperate, but his general health good, with the exception of an attack of acute rheumatism six years ago. Four months ago he began to feel pain in his chest, with shortness of breath; at the same time he had pain, with a feeling of tightness over the liver: he has also, since that time, had a slight hacking cough, and has been gradually getting worse.

His chest is broad and well formed; the resonance generally good, excepting that the præcordial dulness is too extensive. He has a slight hacking cough without expectoration; the respiration is laborious; there is rather a faint

* It is, I find, noticed by Dr. Chevers, in the essay above alluded to, that in such cases patients do sometimes die from dyspnœa.

vesicular murmur over both lungs. The heart's action is loud and tumultuous; there is a rough systolic murmur over the situation of the mitral valve, and a diastolic murmur that may be traced along the course of the aorta; there is also an intermediate sound to be heard over the surface of the heart, probably a friction sound. The pulse is 92, sharp and splashing.

The abdomen is tumid, and gives rather an obscure sense of fluctuation on manipulation. The liver is much enlarged, extending down to the umbilicus, and there is considerable tenderness over the region of that organ.

Tongue slightly furred; bowels regular; urine high coloured, depositing a pink sediment, and containing no albumen.

Diagnosis—Regurgitant disease of the aortic valves; distention of both ventricles, and consequent engorgement of the lobes; disease of mitral valve doubtful.

Pil. Scillæ Co. gr. x. Hydr. Oxyd. gr. i. fiat Pil. iij. h. s. sumend.

16. Ext. Taraxaci gr. xv. Decoct. Aloës Co. ʒss. Mist. Gentian. Co. ʒi. ter die.

Pulv. Scillæ. Pulv. Ipecac. Pulv. Hydrarg. āā gr. i. Ext. Hyoscyami gr. ij. nocte manequē.

18. Feels better, and his breathing is less difficult; bowels act freely, but his cough is troublesome, with frothy expectoration tinged with blood; the cardiac murmur continues the same, or perhaps rather louder than on admission.

Omittatur Pulv. Scillæ; et Pergat.

19. Julep. Ammon. Acet. c̄ Vin. Ipecac. m xv. Sp. Æth. Nit. m xx. Tinct. Hyoscyami m xx. 4tis horis.
Rep. Pil.

21. Continues much the same, excepting that the dyspnœa has increased.

Appl. Emplast. Canth. sterno.—Rep. Mist.

22. Last evening, at ten o'clock, he became suddenly worse, with intense pain over the liver, and great difficulty of breathing: pulse 120, small and feeble; twelve leeches were applied to the right hypochondrium, and one grain of opium, with a quarter of a grain of tartarized antimony, ordered for him; but he obtained no relief, and died at eleven this forenoon.

SECTIO CADAVERIS, fifty hours after death.—Heart much enlarged: there was hypertrophy and dilatation of both ventricles, which were gorged with blood, the right more especially; ossific deposit on the aortic valves; the mitral valve slightly thickened; the tricuspid and pulmonary sigmoids healthy. The pericardium was healthy, but contained about five or six ounces of fluid. The lungs were gorged with blood, and there was effusion into both sides of the chest. There was also a large pulmonary apoplexy. The liver of a nutmeg colour, much enlarged and gorged with blood. The kidneys were large and gorged, otherwise healthy. The other abdominal viscera healthy. There was a large quantity of torpid fluid in the peritoneal cavity.

It is very difficult, owing to the imperfect account which hospital patients often give of themselves, and their reckoning their illness generally from the time when they are compelled to relinquish their employment, to say whether the disease of the aortic valves had existed ever since the attack of acute rheumatism, which occurred six years before the death of the patient. Certain it is, that disease of these valves may exist for a very long time without causing any inconvenience, unless some superadded illness cause further embarrassment to the circulation, or until the hypertrophy and dilatation, but more especially the latter, have themselves become a cause of obstruction. The existence of the murmur, in the situation where abnormal sounds produced by disease of the mitral valve are commonly said to be heard, was not considered conclusive as to disease of that valve; for where there is great distention of one or both ventricles, such murmur may certainly be heard, although this valve be sound; and that such distension existed we had every reason to believe. At the same time we could not be certain that these valves were sound; for where there is disease of the aortic valves, of which there could be no doubt here, that disease, occurring between the mitral valve and the radial artery, gives its character to the pulse, and altogether masks, or greatly modifies, that which would be given to it, under other circumstances, by disease of the mitral valve. Of this, however, we were sure, that practically, as far as the return of blood from the lungs was concerned, the patient was in the same condition as if

the mitral valve were contracted, or admitted of regurgitation.

That such was really his state was shewn by the condition of the right heart, and by the pulmonary apoplexy. It is probable, moreover, that, owing to the weather becoming rapidly colder, he had an aggravation of the bronchitis, which always supervenes, sooner or later, in cases of obstructed pulmonary circulation, and that this increased the tendency to death by apnœa; and, by the rapid engorgement of the liver, caused the pain which was felt in that organ. The series of causation seems, then, to have been this:—disease of the aortic sigmoids; hypertrophy and dilatation of the left ventricle, the dilatation becoming disproportionate to the hypertrophy; consequent inability of the left ventricle to empty itself as fast as the blood poured in from the lungs through the left auricle; consequent distention of that auricle; engorgement of the lungs, the right heart, the liver, &c.; death from apnœa.

I come next to the ascending aorta, of which I need say but little, as the tendency of disease of this vessel to produce hypertrophy and dilatation of the left ventricle is pretty generally acknowledged. The following case, from the pen of Mr. Wayte, my able clerk in the Summer Clinical Wards in the year 1845, is an apt illustration both of the circumstances in which such cases resemble those of simple disease of the valve, and those in which they differ from them.

CASE 15.

Dilated Aorta and diseased Sigmoids—Enlargement of both sides of the Heart—Gorged Lungs, Liver, and Kidneys.

JOHN —, aged 43, a leather-currer, admitted into the Summer Clinical Ward, under Dr. Barlow, May 7, 1845. Married, and has three children. He is a native of Yorkshire, but has lived in London for several months.

Is of middle height, dark hair and grey eyes, pallid countenance, livid lips and extremities, and has latterly fallen away much in flesh.

There seems to be no disease in his family: both parents are alive and aged. He was formerly a man of great muscular strength, and able to run, walk, and work hard, without

dyspnœa. He has never had rheumatism at all severely. When young he suffered an attack of whooping-cough, but apparently without any ill consequences. For the last four or five winters he has been subject to cough and dyspnœa; but with this exception he has enjoyed perfectly good health until the date of the present illness. His habits also have been tolerably temperate.

The present illness commenced very gradually about nine months ago, when he began to feel very much fatigued, and to suffer much from cough and dyspnœa, so as to be compelled to relinquish his ordinary avocation. These symptoms were not much relieved, when, in February last, he experienced a fresh attack of the same set of symptoms, and had then a little hæmoptysis. Ever since this he has been very ill, though with occasional alleviations; but he has not been able to recline for several weeks, his ordinary position being that of kneeling on the ground and bending his chest over the side of the bed. About Christmas there supervened palpitation, with pain in the cardiac region, or rather a sense of tightness and oppression about the sternum. This was followed by swelling of the legs and abdomen. The exertion in coming to the hospital occasioned such extreme anhelation, that further examination was postponed; the urine having been tested, and found to be slightly coagulable by heat, by nitric acid, and by acetic acid with ferro-cyanate of potass.

Pil. Hydrarg. gr. ifs. Pulv. Ipecac. gr. fs. Pulv. Scillæ gr. i.
Ext. Hyoscyami gr. ij. ter die.

Sp. Æth. Sulph. Co. Sp. Æth. Nit. āā m xv. Oxy mel. Scillæ
m xl. ex Mist. Camph. 4tis horis.

Appl. Emplast. Canth. stern.

Evening—He found relief as soon as the blister began to draw, but he is obliged to kneel upon his bed; his skin is damp with perspiration.

8. He slept but little, not being able to change his kneeling posture: the cough and dyspnœa are troublesome; the sputa are watery, with some opaque mucus, and some which is brownish and frothy. There is less distress of breathing this morning, the respiration being 25 per minute; pulse 105; but as soon as he begins to talk, the respiration becomes very much accelerated: he, however, is now sitting up in his bed. The blister rose very well; urinates

a little more copiously; skin moist; the bowels have been relieved; tongue moist, slightly furred.

Chest well formed, but not very capacious; the left side is of its natural resonance both fore and aft, but there is some dulness on percussion on the right side beneath the level of the mammæ, and posteriorly beneath the same level. The respiration in both apices in front pretty free, but accompanied by occasional sonorous and intestinal ronchi; but it is more defective, and seems to be distant in the part of the right lung which corresponds to the above noticed sphere of dulness: in the left lung, posteriorly, the respiration is louder; but both inspiration and expiration are wheezing, the latter chiefly so, and prolonged: respiratory motions 28 per minute.

Heart—Sphere of dulness not increased; impulse felt, but by no means forcibly, as he sits in bed; rhythm regular: there is a very loud sonorous diastolic bruit heard most clearly opposite to the mid-sternum, also along the aorta, and, indeed, throughout the whole of the anterior part of the chest and throughout the left lung posteriorly: there is not much pulsation in the epigastrium. The first sound is very indistinct at the base of the heart, but is unaccompanied by bruit. The aorta is felt above the first bone of the sternum, and the carotids jar a good deal. Pulse 102, rather splashing; some evident rigidity of the radial artery.

Abdomen of natural form: it apparently contains no water, but the intestines are rather windy. The liver seems to be enlarged, but cannot be felt: there is, however, a very tense condition of the two recti muscles, which gives the appearance of an engorged liver.

10. Upon more careful examination of his heart, which his state to-day permits, there seems to be a see-saw bruit over the aortic valves, but that with the second sound is the one above alluded to as the most sonorous.

12. Rather better.

15. He is now again obliged to kneel in his bed, his dyspnoea preventing him from lying down. The bruits are in much the same state, and there is much wheezing in the left lung posteriorly.

16. Was obliged to kneel all the night: his dyspnoea is very

great, and he is sweating profusely; the sputa are frothy, and rather more easy of expectoration: bowels not very open; tongue moist and furred; pulse frequent, jarring, but soft; urine of sp. gr. 1027, cloudy by heat and acetic acid, and with ferro-cyanate of potash.

Empl. Canth. sterno.—Adde Sp. Æth. Nit. m x. sing. dos. mist.

17. Is in much the same state, and unable to recline in bed.

Camphoræ. Zinci Sulphat. āā gr. i. Ext. Hyos. gr. iii. nocte maneq.

19. He has been able to recline in his bed for a short time together. His cough is better, and sputa are less since he has taken the pills. Respiration 25 per minute; pulse 104, regular, jerking, and pretty full; bowels not open; tongue cleaner.

21. The dyspnœa returned as bad as ever last night, so that he could not lie down. There is much sub-mucous ronchus in both lungs posteriorly, and very little air enters in proportion to the labour exerted in inspiration. He does not expectorate so much or so easily.

C.C. inter scapulus ad 3 iij.

Decoct. Senegæ. Mist. Camph. āā 3vi. Sp. Æth. Sulph. Co. m xl. 4tis horis.

22. Slept better last night, and is able to be out of bed this morning: the see-saw sound is very plainly audible over the first bone of the sternum.

24. Was very much distressed all last night, and remains so to-day. The swelling is increasing up to the abdomen. Not much headache. The dyspnœa came on rather suddenly about eight o'clock. Pulse quick, regular, and jerking; tongue furred at the back; skin cool and clammy; bowels open; less urine; cough very troublesome, with great difficulty in expectoration.

Adde Potassæ Acetat. ʒi. sing. dos. mist.

Habeat Stramonii foliorum q. s. ad fumigandum.

26. He has not yet made trial of the stramonium, through the inadvertence of some one, so that his dyspnœa is very bad still.

27. He has derived relief for the time from the smoking, but its effects are very transient.

29. He has been sitting up all night, unable to lie down; and is now bending forwards, resting his arms on the pillows at the head of the bed.

30. Pulv. Jalap. Co. ℥ii. Sp. Æth. Sulph. Co. m xl. ex Julep.
Menth. stat.
Pot. Acetat. ℥i. Sp. Juniperi Co. ʒi. ex Infus. Scopar.
4tis horis.

31. The dyspnœa increased much, and he died early this morning.

SECTIO CADAVERIS, thirteen hours after death.—A considerable quantity of clear serum was found in the right pleural cavity, the corresponding lung being somewhat strongly adherent posteriorly: it was much infiltrated with serum when cut into, and the lower lobe much condensed by pressure from the liquid effusion, and of a dingy red colour; but there was no evidence of pneumonic consolidation. The left pleura contained no fluid. The corresponding lung was much congested, but was rather dry when cut into. Bronchial lining membrane bloodshot but not much thickened, and containing much thick mucus.

Heart very greatly enlarged in bulk, weighing twenty-two and a half ounces when divested of all adherent parts except the origin of the aorta: all the cavities were much dilated, but more especially the left ventricle, which was also hypertrophied, though not to an extent proportioned to the dilatation. The aortic valves were thickened and contracted, especially the right one, which had formed an attachment with its neighbours: the aorta itself was very scabrous above the valves, and dilated, though not saccularly; but at the origin of the innominata there was a saccular dilatation. The mitral and all the other valves (except the aortic) were healthy.

The liver was much enlarged and myristicated, but had not undergone contraction; nor did it tear like a brittle tissue. Kidneys firm, coarse, much injected, but not granular: considered to be similarly affected with the liver, to wit, secondarily diseased.

Mr. King considered that the trachea was too small, and the rima glottidis narrowed, though there was no œdema thereabouts. He also pointed out a young aneurism passing upon the right auricle, near the vena cava superior: this was, however, very small, and could not have interfered much with the circulation.

Upon comparing this with the preceding case, we may

observe that all the secondary lesions were the same in both instances, though I believe that the primary mischief was different. In the former case we find disease affecting only the valves, without implicating the aorta, a circumstance which we not unfrequently meet with; whereas it rarely or ever happens that the ascending aorta is much involved without the valves becoming implicated. Hence it is probable that in the latter case the disease commenced in the aorta. We have, however, one very distressing symptom in the last case, which was not observed in the preceding one; namely, the urgent paroxysms of dyspnoea, or rather panting, which seldom allowed the patient to recline, and often compelled him to have recourse to the uncomfortable kneeling posture described above. This I believe to have been owing to the pressure upon the left recurrent nerve by the dilatation of the arch of the aorta; and in this case, perhaps, upon the right also, owing to the disease of the innominata. This symptom is generally found under these circumstances; and in cases of heart disease should always direct attention to the aorta.

Proceeding onwards to the remoter arteries, we very often find a rigid condition of these vessels, extending sometimes to very minute branches, which must materially impede the circulation, and thereby cause enlargement of the left ventricle, and its consequences. It does not, indeed, very frequently happen (although I have seen very great and distressing hypertrophy and dilatation produced by this cause) that the distention of the heart is carried to such an extent as to prove the cause of death, as life is more frequently cut short by the giving way of one such vessel in the brain, or by some of the other diseases which are almost constantly associated with this condition of the vessels. Speaking of such diseases of the arteries, Dr. Alison says, "They occur, especially in persons of bad habit of body, very generally in middle or advanced life; and probably depend upon a morbid condition of the blood." I have myself been in the habit of pointing out three circumstances as more especially apt to excite it—hard work, hard living, (including intemperance), and visceral disease, of the depurating organs more particularly, giving rise to a morbid condition of the blood.

This leads me to the second class of causes; namely, distention, and its consequent enlargement, arising from changes in the quantity and physical properties of the blood.

Now, as regards the quantity of the blood considered simply, an increased quantity of the circulating fluid must, *cæteris paribus*, require an increased effort in the circulating organ; and, from what has been before observed, tend to produce enlargement of the heart, if there be no proportional defect in the nutritive ingredients of the blood. Under these circumstances, then, we might expect simple hypertrophy, the effects of which would be liable to manifest themselves upon other organs, especially the lungs and the brain.

It is, however, to say the least, very doubtful whether there occurs such a thing as simple superabundance of normal blood; at all events, it is a thing impossible to demonstrate, and cannot therefore be received as a *vera causa* in accounting for other morbid phenomena. It has indeed been shewn by M. Andral, that in plethora we have a great excess in the proportionate quantity of red globules, accompanied with increased force and frequency in the pulsations of the heart. May not the increased action of the heart, thus induced, give rise to hypertrophy and its consequent effects upon other organs? This, however, is a subject which it hardly belongs to my present object to pursue further; and I make the above remarks as suggestions, rather than adduce them as the results of observation.

Again, it has been observed by Magendie, that a liquid rendered somewhat viscid is capable of being propelled through capillary tubes much more readily than water; and hence it must follow, that when blood loses its viscosity, and is brought to a state more nearly resembling water, as is the case in Bright's kidney, after large or repeated hæmorrhages (and possibly in chlorosis), we must have a condition tending to produce hypertrophy or dilatation; and I think that careful observation will shew that such is actually the case.

In Bright's kidney of any considerable standing, it is found that the serum is so remarkably deficient in albumen as sometimes to contain less than one half the normal proportion, the red globules and the fibrine being also deficient, but more especially the former. The patients so affected by

this disease are often said to be anæmiated; and it is true that there is a remarkable deficiency as regards the organic ingredients of the blood; but as regards the absolute volume of the circulating fluid there is no reason to suppose that it is defective, but rather the contrary: we have, in fact, rather the serous polyhæmia of M. Beau, than true anæmia. It is so common in Bright's disease, under these circumstances, to find enlargement of the heart, that I need not adduce an instance; but it may be observed, that the Bright's kidney comes under the class of visceral diseases to which I have before alluded as producing rigidity of the arteries from a morbid condition of the blood probably inquinatum the result of non-depuration, and thus leading to enlargement of the heart; and it is very difficult to separate one class of cases from the other. Still I have seen in Bright's disease considerable hypertrophy and dilatation, chiefly the latter, without valvular disease, and without any appreciable change in the coats of the arteries.

With regard to hæmorrhages, it should be remarked that it is probably by producing the serous polyhæmia that they act as causes for enlargement of the heart; for it is only after a considerable period, and when such condition of the blood has ensued, that I have observed this result.

It may, however, be justly said, that in all those cases where the blood is attenuated by a defect in its solid contents there must necessarily be defective nutrition, and consequently impaired strength of the muscular structure of the heart, and therefore that such cases come under the third category, namely, of deficiency of strength in the muscular walls of the heart; and I believe that the two classes can only be theoretically separated. The Bright's disease hæmorrhages, and I believe other excessive discharges or evacuations, and probably chlorosis, have thus a tendency, through the medium of the blood, to produce enlargement of the heart, as well from the diminution in the nutritive properties of the blood, as from the greater difficulty where-with it is propelled through the extreme vessels.

CASE 16.

I was consulted, March 31st, 1845, by Miss H—, aged about 42 years, who was suffering from dyspnœa with great

palpitation of the heart. The pulse was regular, moderately full, and not splashing; the impulse of the heart very heaving; the rhythm regular; both sounds loud; the first accompanied by a soft murmur, audible over the whole surface of the heart. There was considerable anasarca of the lower extremities; some ascites, and enlargement of the liver; urine scanty and depositing lithates, not albuminous. She also informed me, that when about 12 years old she had a severe fall, and was treated with large bleeding for a concussion of the brain; that she afterwards was very pale and delicate, and for some years subject to dyspnœa, for which she was occasionally bled; that she began to menstruate regularly, and was better; that of late years the dyspnœa had been again increasing, with palpitation; that she had been again and again bled, with temporary relief; so that she had been persuaded that bleeding was "meat and drink to her." For the last few months the catamenia had not appeared, and the dyspnœa had been worse, and the last bleeding had relieved her less than the preceding one, and for a less time: she had also since swollen. She was relieved by purgatives and diuretics; but in the following November I again saw her, when all her symptoms were much aggravated. The pulse was now more frequent and small, being of an undulating character; and she died in a few days. There was here, unfortunately, no inspection; but I have little doubt in my own mind that the series of causation in this case was anæmia, or, more strictly, serous polyhæmia from loss of blood; dilatation, with perhaps a little, but very inadequate hypertrophy of left ventricle; inability of the ventricle to propel the blood, and consequently to receive it; engorgement of the lungs and right heart; engorgement of the cava,—and general dropsy of the portal system, and ascites.

CASE 17.

In the spring of 1846 I examined, at Rotherhithe, with my clinical clerks, Messrs. Rump and G. King, the body of Mrs. D—, aged about 48, who had been under my care from time to time with dyspnœa, palpitation, ascites, general dropsy, and scanty high-coloured urine. The only abnormal sound about the heart was a soft systolic mur-

mur over the whole surface of that organ: there were, latterly, extensive bronchial rattles. In this case there was a history not very dissimilar to the last. She had, when a young woman, suffered much from hæmorrhage from a wound in the leg; after recovering from which she was occasionally troubled with dyspnœa, for which she was several times bled. She married, and had a large family and some mis-carriages, often attended with considerable loss; but though generally unequal to much exertion, she had tolerable health till the catamenia begun to subside, when the symptoms above described came on with increasing intensity, and she died of apnœa.

The face was rather swollen; the abdomen, legs, and thighs, very much so. There was some fluid (about half a pint) in each pleura; the lungs were crepitant, bronchitic; the heart was large; the right side was the most gorged, but both ventricles were alike dilated; the walls of the left ventricle thickened, but by no means proportionately to the hypertrophy; the endocardium was rather too opake; all the valves healthy. There was much effusion into the peritoneal cavity; the liver was large and myristicated; the kidneys highly congested.

It should be remembered, however, that these cases do not include those hæmorrhages or other discharges which maintain a continual drain upon the system, and consequently keep the volume of the circulating fluid continually below the natural standard. Under such circumstances, though the heart will be feebly nourished, the strain upon its muscular walls will not be great; and, as has been accurately pointed out, the cavities will be small, and the walls proportionately thin.*

In conclusion, I would draw one practical inference from the above observation, and beg to impress it more especially upon the junior members of our profession, that there is much danger as regards the heart (as well as in many respects) to be apprehended from long-continued bronchitis—from whatever tends to arrest the expansion of the lungs—from pericardial adhesions occurring before growth is complete—from intemperance, and excessive muscular exertion—from disease of the depurating organs—from neglected chlorosis—from hæmorrhages—and, above all, from repeated or uncalled for abstraction of blood.

* Vide Guy's Hospital Reports, Vol. VII. p. 436.

LIST
OF
GENTLEMEN EDUCATED AT GUY'S HOSPITAL,
WHO HAVE BEEN ADMITTED
MEMBERS OF THE ROYAL COLLEGE OF SURGEONS,
AND OF THE APOTHECARIES' COMPANY ;
AND WHO HAVE OBTAINED
DEGREES IN MEDICINE IN THE UNIVERSITY OF LONDON,
FROM SEPTEMBER 1846, TO SEPTEMBER 1847.

Royal College of Surgeons.

OCTOBER 1846.

Mr. J. Higginbottom.		Mr. P. P. Nind.
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NOVEMBER.

Mr. W. B. Beatson.		Mr. J. Bassett.
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DECEMBER.

Mr. G. H. Edwards.

JANUARY 1847.

Mr. J. S. Johnston.		Mr. E. D. Allinson.
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FEBRUARY.

Mr. W. S. Briggs.		Mr. J. W. Poland.
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APRIL.

Mr. E. Lund.		Mr. H. R. Rump.
— C. Mackecknie.		— W. Johnson.
— S. Wilks.		

MAY.

Mr. D. Hope.		Mr. J. Ward.
— H. Tierman.		

JUNE.

Mr. H. Fisher.		Mr. S. O. Habershon.
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JULY.

Mr. J. Adolphus.

AUGUST.

Mr. J. Willan.		Mr. G. Hother.
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Apothecaries' Hall.

FEBRUARY 1847.

Mr. E. Monement.		Mr. T. Oldacres.
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MARCH.

Mr. R. Finch.		Mr. W. L. Norris.
— R. K. Buckell.		

APRIL.

Mr. S. O. Habershon.		Mr. G. Hother.
— J. Packer.		— G. Browne.
— R. Branwell.		— J. S. Helmcken.
— J. Willan.		— H. Fisher.
— H. Shelly.		

MAY.

Mr. C. King.		Mr. E. D. Allinson.
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JUNE.

Mr. G. Roper.		Mr. W. P. Ward.
— R. Muriel.		— E. Lund.

JULY.

Mr. H. R. Rump.		Mr. J. W. Bridgeman.
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AUGUST.

Mr. H. A. Mantell.

University of London.

EXAMINATION FOR DOCTOR OF MEDICINE, 1846.

Dr. D. I. T. Francis,	}	First Division.
*Dr. William Withey Gull,		
Dr. Joseph Birkbeck Nevins,		
Dr. H. George Noyes,		

* To Dr. Gull was awarded the Gold Medal for a Commentary on a Case in Medicine.

FIRST EXAMINATION FOR BACHELOR OF MEDICINE, 1847.

*Mr. Samuel Weston Devenish,	}	First Division.
Mr. Hubert Shelly,		
Mr. Joseph Willett,		

* In the Examination for Honours, Mr. Devenish obtained the Exhibition and Gold Medal for *Materia Medica*.

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CERTIFICATES OF MIDWIFERY.

1486.

Mr. Hugh Rump.
Mr. Edward Lund.

Mr. Leigh.

We apologize for having omitted the names of these gentlemen in our last volume.

1847.

Mr. Henry Fisher.
Mr. Thomas H. Mitchell.

Mr. Joseph Adolphus.

PHYSICAL SOCIETY.

William Pulteney Alison, M. D., Professor of Medicine, Edinburgh,
Honorary Diploma.
Carl Rokitansky, M. D., Professor of Pathological Anatomy, Vienna,
Honorary Diploma.

PUPILS' PHYSICAL PRIZES.

Mr. John S. Helmcken.

Mr. Joseph Hinton.

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April 1847.

Medical Reports,—Mr. Hinton First Certificate.

Mr. Marshall Second Certificate.

Surgical Reports,—Mr. Beaumont First Certificate.

Mr. Rake Second Certificate.

Mr. H. Hooper . . . Third Certificate.

Dr. Barlow's Prizes for best Medical Reports. . Mr. J. Hinton.*Mr. Key's Prize for best Surgical Reports* . . . Mr. D. Hooper.

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AWARDED.

OCTOBER 1846.

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Mr. John Bassett	}	Mr. Morgan.
Mr. Henry Fisher		
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Mr. Michael Walling.....		
Mr. William Preston.....		
Mr. Henry F. Jenkinson		
Mr. M. Johnson.....	}	Surgery.
Mr. Walter Johnson		

JANUARY 1847.

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Mr. Howard Johnson	} Mr. Cooper.
Mr. Edward D. Allinson	
Mr. Samuel O. Habershon	} Surgery.
Mr. John S. Helmcken	

APRIL.

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Augustus H. Novelli, M. B. Cantab ..		
Mr. Samuel Wilks	}	Mr. Morgan.
Mr. George Hother		
Mr. John Hendley		
Mr. Henry Geary		
Mr. Thomas B. Rake.....	}	Mr. Cooper.
Mr. Joseph Hinton.....		
Mr. R. W. Beaumont.....	}	Surgery.
Mr. J. R. Tuke		
Mr. Frederick Hodson		

JULY.

Mr. Henry Hooper.....	Mr. Key.
Mr. J. R. Tuke	} Mr. Cooper.
Mr. George Roper.....	
Mr. John Wilson	} Surgery.
Mr. Edward Marshall	

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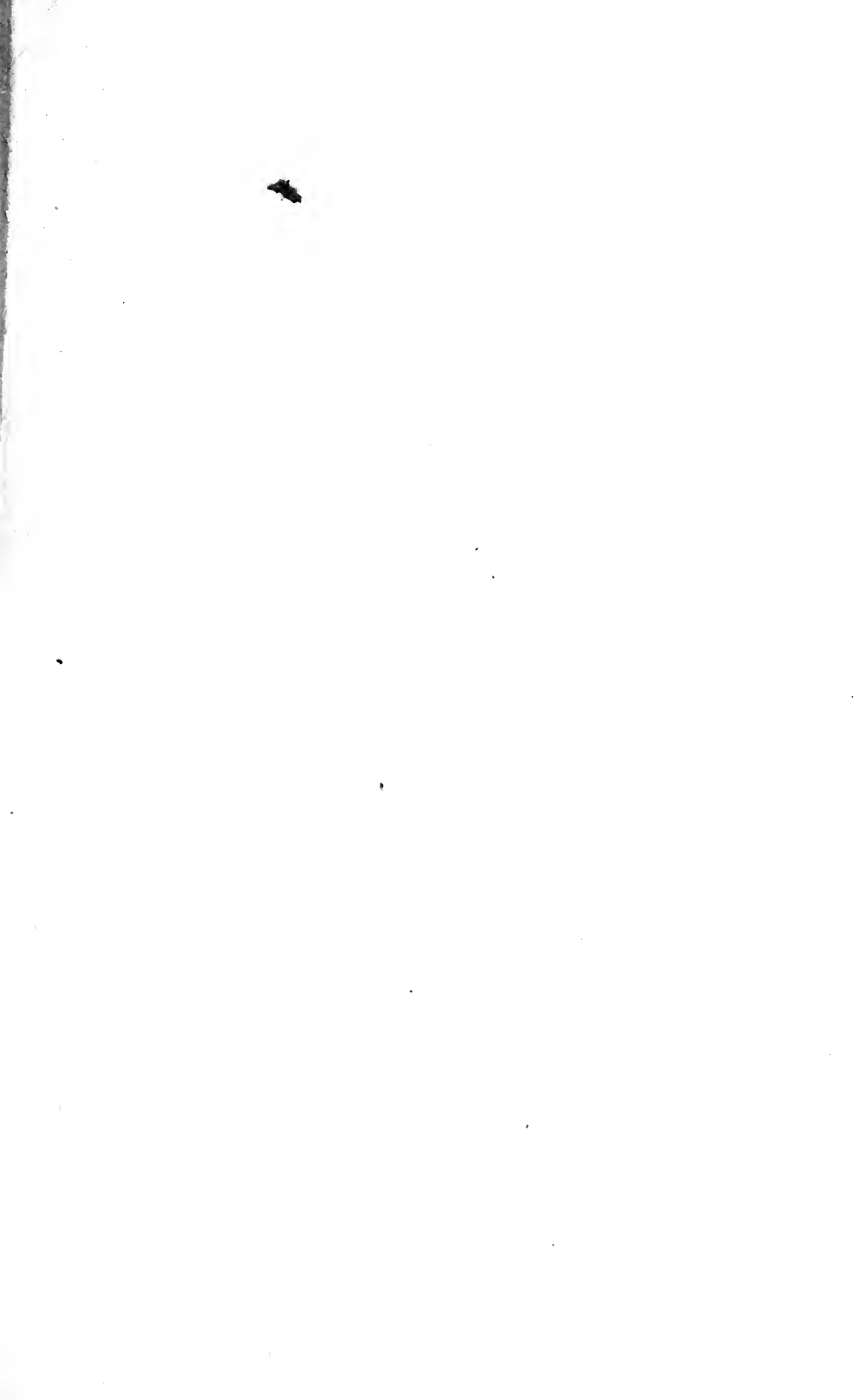
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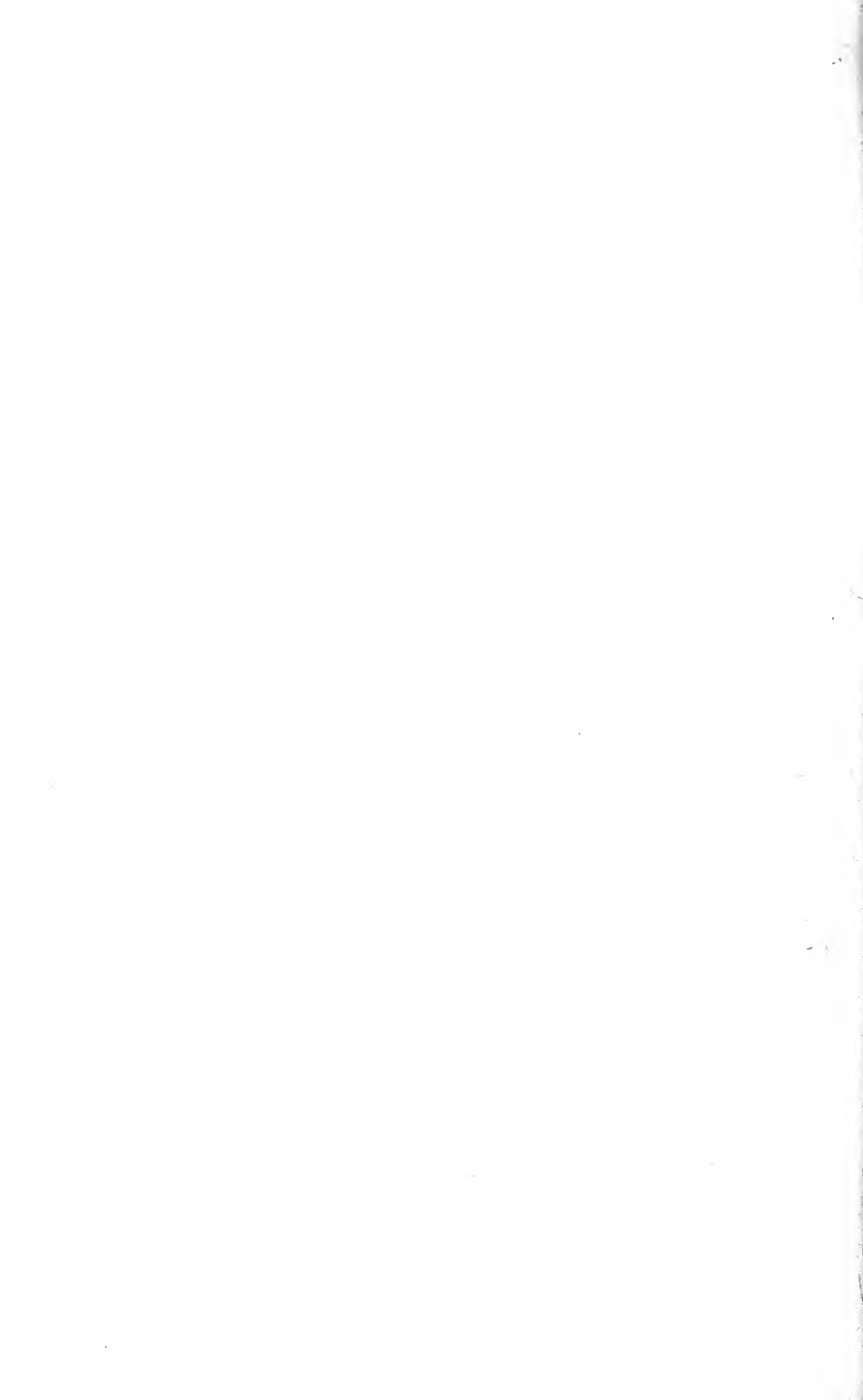
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